

636607

REPORT NUMBER: 214-CAI-03-05

**SAFETY COMPLIANCE TESTING FOR FMVSS 214
SIDE IMPACT PROTECTION
INDICANT**

NISSAN MOTOR COMPANY, LTD.
2003 NISSAN MURANO
MPV

NHTSA NUMBER: C35200

VERIDIAN ENGINEERING TEST NUMBER: 8675-F214-05

VERIDIAN ENGINEERING
TRANSPORTATION SCIENCES CENTER
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April 15, 2003

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6111 (NVS-220)
Washington, DC 20590

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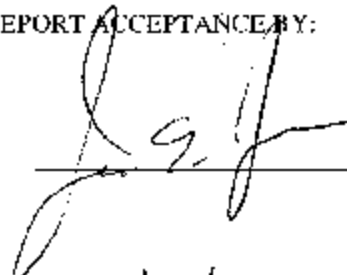

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16. Abstract A 55/28 kph 90° Side Impact (Moving Deformable Barrier) Indicant Test was conducted on the subject Nissan Murano MPV. This test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001). This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on April 15, 2003. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 20°C. The target vehicle post-test maximum crush was 350 mm at level 3. The test or target vehicle's performance is given below: <table border="1"> <thead> <tr> <th></th> <th>Front SID H3</th> <th></th> <th>Rear SID H3</th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td>21.3</td> <td>g's</td> <td>63.6</td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td>37.3</td> <td>g's</td> <td>52.5</td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td>50.4</td> <td>g's</td> <td>58.7</td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td>44</td> <td>g's</td> <td>61</td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td>86</td> <td>g's</td> <td>94</td> <td>g's</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.							Front SID H3		Rear SID H3		Left Upper Rib Acceleration:	21.3	g's	63.6	g's	Left Lower Rib Acceleration:	37.3	g's	52.5	g's	Lower Spine Acceleration:	50.4	g's	58.7	g's	Thoracic Trauma Index (TTI):	44	g's	61	g's	Pelvis Acceleration (PEV):	86	g's	94	g's
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-01114. The purpose of this indicant test was to evaluate side impact protection in a 2003 Nissan Murano MPV when tested at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 26, 2001).

SECTION 2

SUMMARY OF SIDE IMPACT TEST

This Side Impact Protection Indicant Test was performed at the New Car Assessment Program (NCAP) target test velocity of 62.0 kph, which is 8 kph faster than the target velocity required by the Office of Vehicle Safety Compliance's Laboratory Test Procedure (IP-214D-06, dated July 26, 2001).

A 2003 Nissan Murano MPV was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.0 kph (38.5 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Veridian Engineering Transportation Sciences Center in Buffalo, New York on April 15, 2003. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the Side Impact Hybrid III Dummies (SID H3s) are included in Appendix A.

Two restrained Side Impact Hybrid III Dummies (SID H3s) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OCWS Side Impact Laboratory Test Procedure which is dated July, 1997. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID H3s were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Nine Axis Array Heads (NAAH)
6. Head triaxial accelerometers (X-, Y- and Z-direction)
7. Upper neck force and moment (X-, Y and Z-direction) load cells

A summary of the Side Impact Hybrid III Dummy (SID H3) configuration and verification test data can be found in Appendix C. A total of 72 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID H3	Rear SID H3
THI (g)	44	61
PEV (g)	86	94

AIR BAG DEPLOYMENT STATUS

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET I

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2003 Nissan Murano MPV

Vehicle Body Color: Gold VIN: JN8AZ08T43W101802

Vehicle NHTSA No.: C35200 Month & Year of Manufacture: _____

Engine Data: 6 Cylinders: - CID: 3.5 Liters: - cc

Engine Placement: - Longitudinal; or X Lateral

Transmission: 4 Speed: - Manual: X Automatic: X Overdrive

Final Drive: - Rear Wheel Drive; X Front Wheel Drive: - Four Wheel Drive

Odometer Reading 84 km

Supplemental Airbag Restraints:

Front Occupant: X Frontal; - Knee; X Side; X Curtain

Rear Occupant: X Frontal; - Knee; - Side; X Curtain

Options: X A/C; X Power Steering; X Power Brakes; X Power Windows

DATA FROM TIRE PLACARD

Recommended Tire Size: P235/65R18

* Recommended Cold Tire Pressure: 230 kPa FRONT; 230 kPa REAR

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P235/65R18 104T; Manufacturer: Goodyear

Tire Pressure with Maximum Capacity Vehicle Load: Front: 300 kPa; Rear: 300 kPa

Treadwear: 360; Traction: A; Temperature: A

VEHICLE CAPACITY DATA:

Number of Occupants: 2 Front; 3 Rear; 0 3rd Seat; 5 Total

Type of Front Seats: X Bucket; - Bench; - Split Bench;

Type of Rear Seats: - Bucket; - Bench; X Split Bench; X Contoured

Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob

Type of Rear Seat Back: - Fixed; X Adjustable with X Lever or - Knob

Vehicle Max Capacity Loading = 390 kg (A)

No. of Occupants x 68.04 kg. = 340.2 kg (B)

Vehicle Cargo Capacity = 49.8 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front = 520.5 kg Left Rear = 361.0 kg

Right Front = 529.5 kg Right Rear = 343.5 kg

TOTAL FRONT = 1050.0 kg TOTAL REAR = 704.5 kg

% of Total Weight = 59.8% % % of Total Weight = 40.2 %

TOTAL WEIGHT = 1754.5 kg

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1754.5</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>49.8</u>	kg (B)
Weight of instrumented SID H3 Dummies (2 X 81.2 kg)	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1966.7</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SID II3(s) + CARGO):

Left Front	=	<u>579.5</u>	kg	Left Rear	=	<u>450.5</u>	kg
Right Front	=	<u>533.0</u>	kg	Right Rear	=	<u>404.5</u>	kg
TOTAL FRONT	=	<u>1112.5</u>	kg	TOTAL REAR	=	<u>855.0</u>	kg
% of Total Weight	=	<u>56.5%</u>	%	% of Total Weight	=	<u>43.5%</u>	%
TOTAL TEST WEIGHT	=	<u>1967.5</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (2 SID II3(s) + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>573.5</u>	kg	Left Rear	=	<u>447.5</u>	kg
Right Front	=	<u>539.5</u>	kg	Right Rear	=	<u>397.5</u>	kg
TOTAL FRONT	=	<u>1113.0</u>	kg	TOTAL REAR	=	<u>845.0</u>	kg
% of Total Weight	=	<u>56.8%</u>	%	% of Total Weight	=	<u>43.2%</u>	%
TOTAL TEST WEIGHT	=	<u>1958</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>854</u>	Right Front	<u>850</u>	Left Rear	<u>864</u>	Right Rear	<u>871</u>
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FULLY LOADED:

Left Front	<u>835</u>	Right Front	<u>839</u>	Left Rear	<u>832</u>	Right Rear	<u>849</u>
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READY FOR TEST:

Left Front	<u>837</u>	Right Front	<u>841</u>	Left Rear	<u>839</u>	Right Rear	<u>849</u>
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Test Vehicle Wheelbase: 2826 millimeters

C.G. = 1219.6 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side =	<u>4580</u>	millimeters
Left Side =	<u>4580</u>	millimeters
Centerline =	<u>4775</u>	millimeters

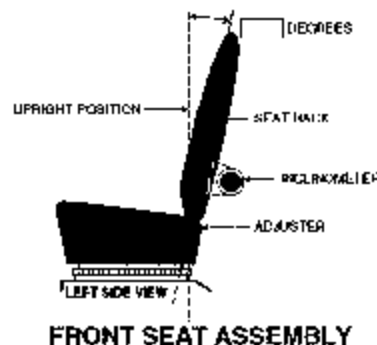
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT CUSHION PLACEMENT:

Mid position (120 mm)

Total Length of Adjustment Travel: 240 millimeters

Total Number of Adjustment Positions or Detents:

Electronic

FRONT SEAT BACK ADJUSTMENT POSITION:

9th notch rearward

Seat Back Torso Angle: 21 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: 25th (4th notch)

ADJUSTABLE STEERING COLUMN POSITION:

WINDOW POSITIONS:

Left Front: Closed

Left Rear: Closed

Right Front: Open

Right Rear: Removed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

82.1 liters (Fuel Tank Usable Capacity)

76.5 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2826 millimeters

Impact Point is 473 millimeters rearward of front axle centerline

(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 468 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2003 Nissan Murano

Body Style: MPV

VIN: JN8AZ08T43W101802

NHTSA No.: C35200

Test Date: April 15, 2003

Overall Length = 4775 millimeters; Overall Width = 1860 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 573.5 kg Left Rear = 447.5 kg

Right Front = 539.5 kg Right Rear = 397.5 kg

TOTAL FRONT = 1113.0 kg TOTAL REAR = 845.0 kg

TOTAL VEHICLE WEIGHT 1958.0 kg

Wheelbase = 2826 millimeters

Longitudinal C.G. from Center of Front Axle = 1219.6 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 5 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 11 mm below nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (414 mm above ground) = 286 millimeters

2. LEVEL 2 (694 mm above ground) = 345 millimeters

3. LEVEL 3 (758 mm above ground) = 350 millimeters

4. LEVEL 4 (1024 mm above ground) = 279 millimeters

5. LEVEL 5 (1581 mm above ground) = 21 millimeters

Maximum Post-Test Intrusion = 350 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification

SID H3/015

SID H3/016

Restraints Used

Three-Point, Safety Belt, Side
Airbag, Side Curtain Bag

Three-Point, Safety Belt, Side
Curtain Bag

INSTRUMENTATION:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3

 Offboard = 7

 TOTAL = 10

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore Inc. 028C0103-1 023B1102

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT =		<u>782.0</u>	kg	TOTAL REAR =		<u>580.5</u>	kg
TOTAL MDB WEIGHT =		<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>62.0</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>155</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>85</u>	millimeters
3. Row C at Mid Level	=	<u>90</u>	millimeters
4. Row D at Top of Stack Level	=	<u>142</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels = 5

DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

TEST DUMMY INFORMATION AND CONTACT POINTS:

DESCRIPTION	FRONT SEAT	REAR SEAT
ATD Type/Serial No.	SID H3/015	SID H3/016
Head Contact:	The side and the top of the head to the side curtain bag.	The side and the top of the head to the side curtain bag.
Upper Torso Contact:	Side Airbag	Door Trim Panel
Lower Torso Contact:	Side Airbag	Door Trim Panel
Left Knee Contact:	Door Trim Panel	Door Trim Panel
Right Knee Contact:	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

DESCRIPTION	FRONT	REAR
Left Side Doors	Closed, latched and Inoperable	Closed, latched and Inoperable
Right Side Doors	Closed, Latched and Operable	Closed, Latched and Operable
Hatch/Other Door	N/A	Closed, Latched and Operable
Seat Movement (mm)	0	0
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

CRITICAL AREAS OF PERFORMANCE	
Pillar Performance	A- and B-pillars moved inboard during the event with no visible tears or separations
Sill Separation	No visible tears or separations
Windshield Damage	None
Window Damage	Rear side glass shattered upon impact
Other Notable Effects	None

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
Front Air Bag	No	No	N/A
Knee Bolster Bag	N/A	N/A	N/A
Side Air Bag	Yes	No	N/A
Side Curtain Bag	Yes	No	Yes

MDB LEFT EDGE IMPACT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	± 50 mm	5 mm forward
Vertical Offset	mm	± 20 mm	11 mm below

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID H3 INSTRUMENTATION DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

		Front Dummy ID# 015				Rear Dummy ID# 016			
		Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
		Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS:									
NAAH X Arm	Y	18.0	70.3	-2.9	34.2	96.2	62.6	-20.5	83.0
NAAH X Arm	Z	18.5	50.2	-7.6	89.5	23.2	99.7	-45.7	64.1
NAAH Y Arm	X	3.1	39.1	-20.9	66.5	20.5	102.2	-14.7	64.5
NAAH Y Arm	Z	16.8	50.0	-4.5	77.5	20.4	40.9	-55.6	64.4
NAAH Z Arm	X	4.6	196.7	-21.4	85.3	24.6	102.7	-26.0	63.3
NAAH Z Arm	Y	24.2	71.1	-3.2	38.5	96.6	64.6	-22.4	83.0
Longitudinal	X	3.3	40.4	-17.2	73.7	16.3	105.6	-17.2	64.3
Lateral	Y	23.3	61.5	-1.5	11.6	84.6	63.0	-14.6	101.0
Vertical	Z	11.9	50.2	-1.4	23.0	24.6	41.0	-40.0	64.3
Resultant	R	28.0	66.3	0.0	-3.4	94.8	64.3	0.0	3.7
HIC		88.7				553.3			
NECK FORCES:									
Longitudinal	X	119.6	41.0	-542.3	74.2	-456.2	64.3	-196.8	113.6
Lateral	Y	378.0	62.9	-47.9	35.8	123.6	151.6	-1584.5	65.2
Vertical	Z	593.5	50.1	-157.9	126.5	987.6	41.1	-870.8	62.0
Resultant	R	662.5	69.7	0.1	-15.0	1800.3	65.2	0.1	-13.5
NECK MOMENTS:									
X		15.1	79.6	-32.9	48.2	26.7	68.5	-45.9	56.7
Y		36.6	89.8	-31.1	62.0	27.5	66.7	-40.8	113.6
Z		28.9	84.9	-6.9	33.1	8.9	159.2	-42.7	78.6
Resultant	R	46.4	89.3	0.0	-11.8	56.9	81.4	0.0	-20.0
RIB ACCELERATIONS:									
Upper Rib Lateral	Y	21.3	46.9	-2.2	111.2	63.6	51.3	-8.6	100.0
Upper Rib Lateral	Y(R)	45.1	51.2	-2.0	90.6	62.2	51.2	-10.9	100.0
Lower Rib Lateral	Y	37.3	48.8	-7.9	70.6	52.5	48.8	-15.7	100.0
Lower Rib Lateral	Y(R)	42.6	49.4	-8.3	70.7	52.3	48.8	-14.5	100.0
SPINE ACCELERATIONS:									
Lower Lateral	Y	50.4	38.2	-8.8	68.8	58.7	43.1	-25.6	144.4
Lower Lateral	Y(R)	50.1	38.2	**	**	57.7	43.2	-10.7	70.0
PELVIC ACCELERATIONS:									
Lateral	Y	86.1	33.1	-20.7	53.8	93.8	37.5	-11.8	61.9
Lateral	Y(R)	87.7	33.1	-21.0	53.8	91.7	37.5	-11.8	61.9

REFERENCE: Positive Direction: Longitudinal (X) = forward; Lateral (Y) = to right; Vertical (Z) = down

Note: Rib, Spine and Pelvis data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.

Head Accelerations and Neck Forces are filtered at SAE Class 1000, Neck Moments are filtered at SAE Class 600.

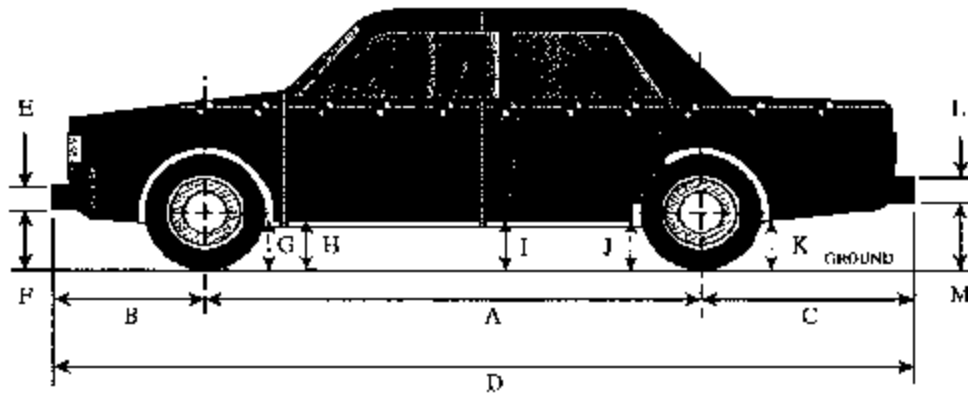
** Not Accurate - Channel Opened

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



LEFT SIDE VIEW

NOTE: all dimensions are in millimeters with tolerance of ± 3 mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2825	2826	2800	-26
B	995	-	1025	30
C	955	-	950	-5
D	4775	-	4775	0
E	150	-	150	0
F	595	590	608	18
G	309	309	330	21
H	315	315	337	22
I	317	306	343	37
J1	321	297	356	59
J2	337	313	374	61
K	420	387	407	20
L	220	-	220	0
M	565	530	550	20
N	786	-	774	-12
O	845	-	722	-123
P	1191	-	1136	-55
Q	469	-	494	25
R	4580	-	4580	0
S	4580	-	4555	-25
T	1860	-	1600	-260

D = Length at Centerline

E&L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-Pillar

J1 = To Pinch Weld

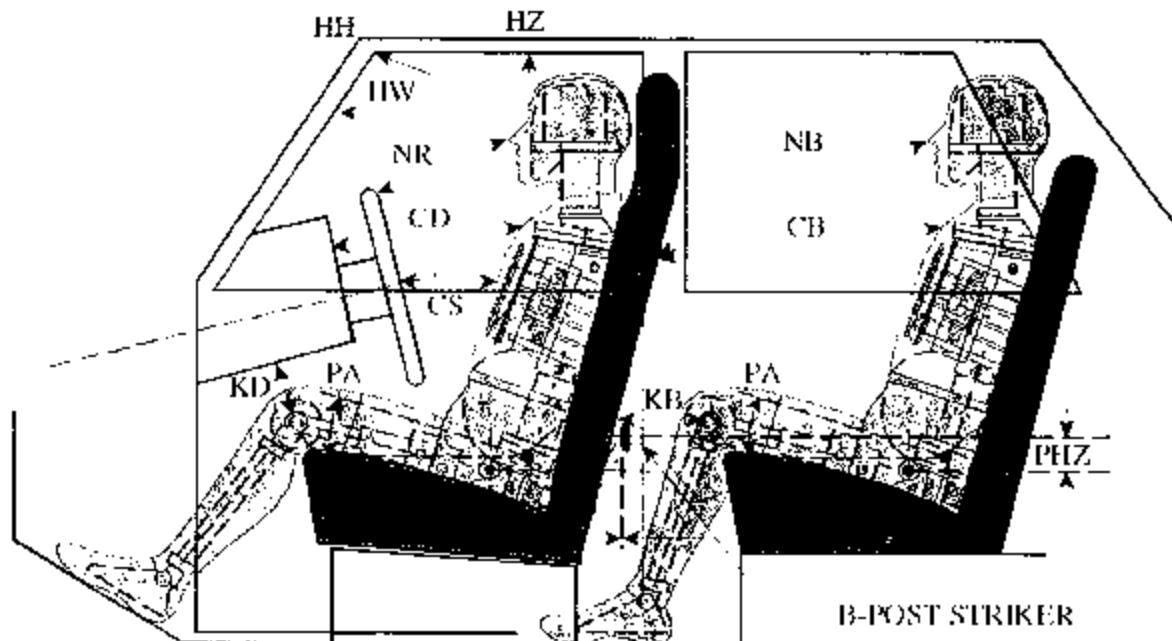
J2 = To Sill

DATA SHEET 7

SID H3 LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# 015	LEFT REAR PASS. ID# 016
HH	531	N/A
HW	837	N/A
HZ	206	220
NR/NB	532	700
CD/CB	616	588
CS	350	N/A
KDL (KDA°)/KBL (KDA°)	231 / (24 °)	228 / (27 °)
KDR (KBA°)/KBR (KBA°)	224 / (27 °)	236 / (26 °)
PA°	24.2	23.1
PHX	223	248
PHZ	97	229

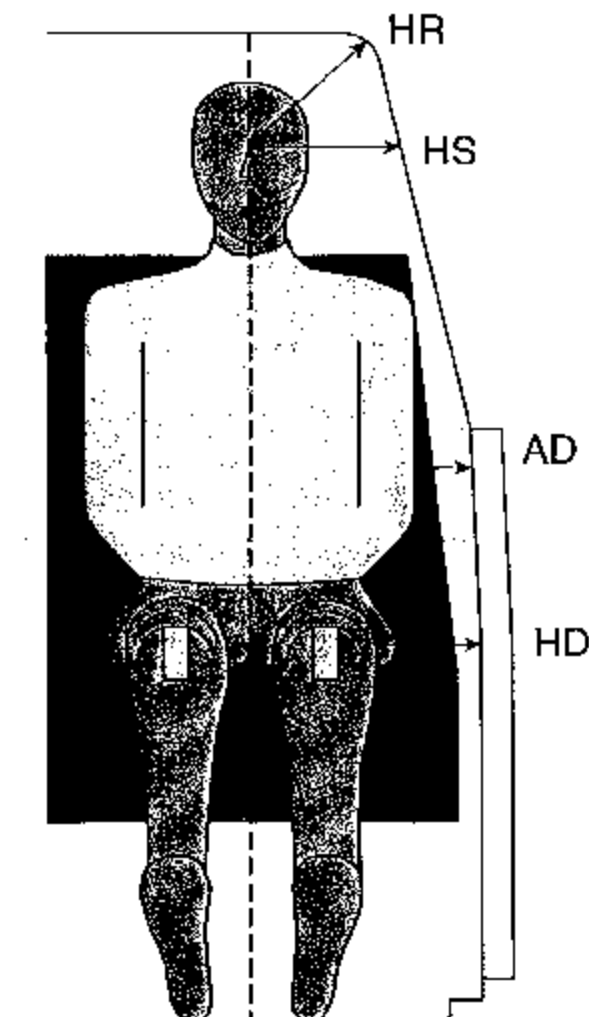
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID H3 LATERAL CLEARANCE DIMENSIONS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



NOTE: All dimensions are in millimeters with tolerance of ± 3 mm.

	DRIVER ID # 015		LEFT REAR PASS. ID # 016	
HR	210		234	
HS	330		266	
AD*	LOWER: 126	UPPER: 128	LOWER: 130	UPPER: 127
HD	155		190	

* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

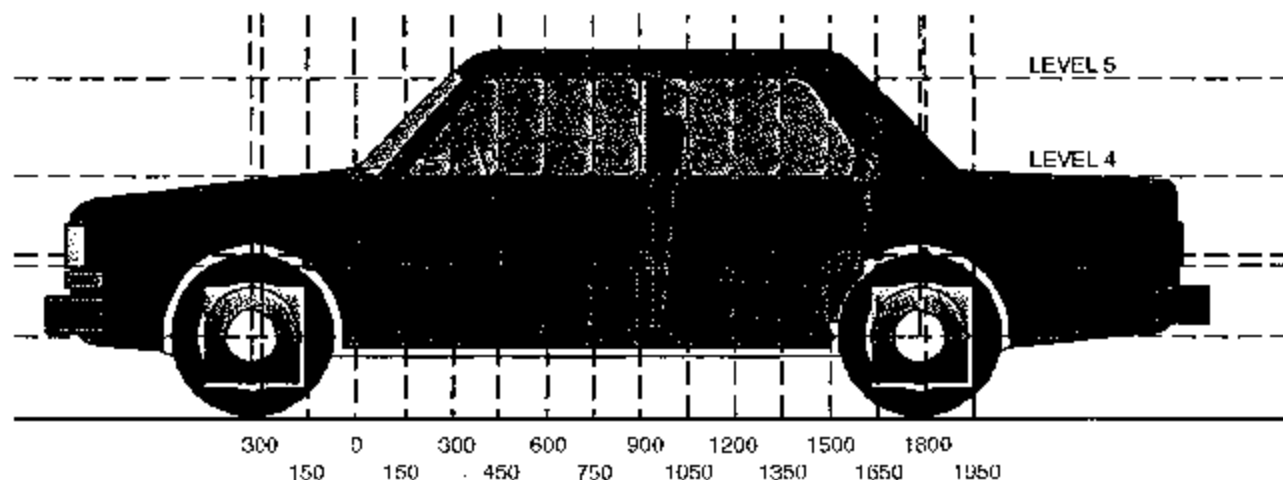
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID H3 arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



LEFT SIDE VIEW

NOTE: All measurements are in millimeters (mm)

LEVEL 5 - WINDOW TOP

LEVEL 4 - WINDOW SILL

LEVEL 3 - MID-DOOR

LEVEL 2 - OCCUPANT H-POINT

LEVEL 1 - AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.

Measurements Along the Vertical 750 mm Line Shown Above.

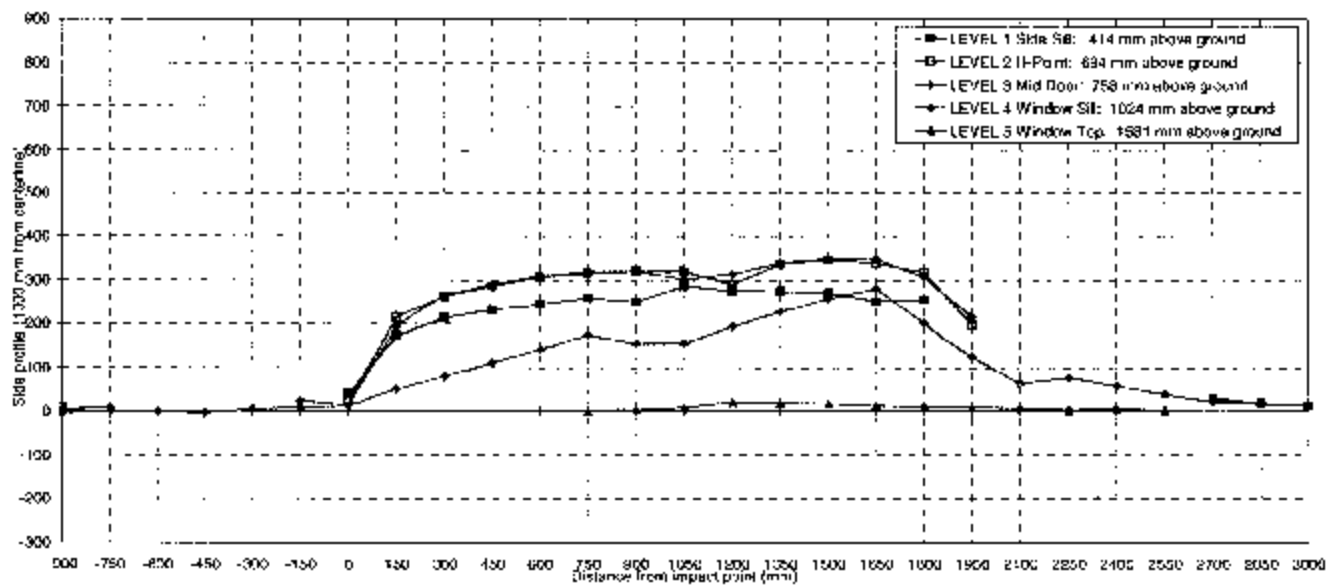
Level 5 @ Window Top	=	<u>1581</u>	millimeters
Level 4 @ Window Sill	=	<u>1024</u>	millimeters
Level 3 @ Mid Door	=	<u>758</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>694</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>414</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



NOTE: All dimensions are in millimeters with a tolerance of ± 1 mm

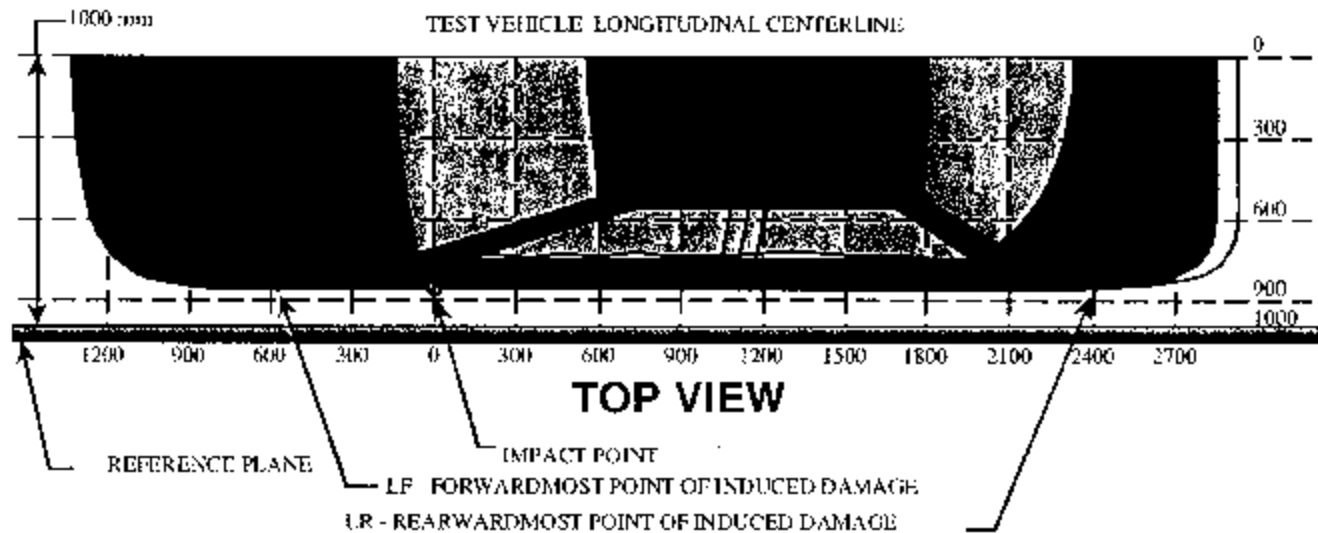
			DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL	HEIGHT (mm)		-900	-750	-600	-450	-300	-150		150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	414	PRE	—	—	—	—	—	—		150	143	119	135	128	145	121	176	135	132	138	87	—	—	—	—	—	—	—	—	—
		POST	—	—	—	—	—	—		323	255	370	377	385	393	407	401	408	401	387	341	—	—	—	—	—	—	—	—	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A		173	517	753	742	757	745	786	775	273	769	749	354	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	694	PRE	138	—	—	—	—	—		96	91	87	83	81	79	76	75	75	76	78	71	62	—	—	—	—	—	55	90	119
		POST	136	—	—	—	—	—		310	252	373	380	395	399	394	365	410	421	416	394	259	—	—	—	—	82	108	131	
		CRUSH	8	N/A	N/A	N/A	N/A	N/A		214	261	266	307	314	320	318	290	335	345	338	317	197	N/A	N/A	N/A	N/A	27	35	12	
LEVEL 3 MID DOOR	758	PRE	148	88	—	—	—	71		29	41	84	77	75	73	71	69	69	67	67	70	61	—	—	—	—	50	92	118	
		POST	151	96	—	—	—	95		283	248	371	385	394	393	372	380	408	417	415	376	276	—	—	—	—	83	101	134	
		CRUSH	3	8	N/A	N/A	N/A	24		194	265	290	306	319	320	303	311	339	350	348	306	215	N/A	N/A	N/A	N/A	33	36	36	
LEVEL 4 WINDOW SILL	1024	PRE	444	305	245	213	175	153		123	113	103	94	88	85	82	78	76	75	76	77	77	77	78	76	79	88	115	—	
		POST	439	303	244	205	179	160		175	192	213	235	268	259	237	271	301	331	345	277	203	141	151	134	118	110	131	—	
		CRUSH	-5	0	-1	-4	4	7		50	79	110	141	175	154	155	193	225	256	279	300	126	64	78	58	39	22	16	N/A	
LEVEL 5 WINDOW TOP	1581	PRE	—	—	—	—	—	—		—	—	—	—	477	571	364	351	355	355	356	358	366	375	378	393	416	—	—	—	
		POST	—	—	—	—	—	—		—	—	—	—	479	574	372	376	374	372	368	367	367	373	378	393	418	—	—	—	
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	3	8	21	19	17	12	11	9	1	3	7	2	N/A	N/A	N/A	

DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-).

Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm.

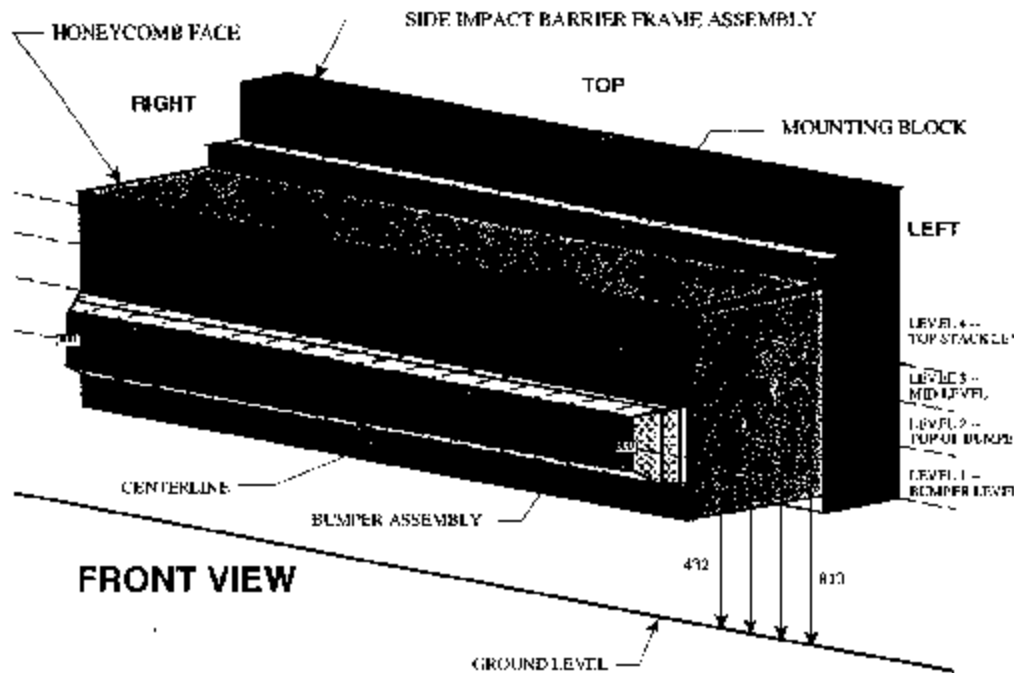
DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LR = 2850 mm)	159	144	15
2	2205	166	93	73
3	1560	423	74	349
4	915	395	75	320
5	270	329	76	253
6	(LF = -375 mm)	166	166	0

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



NOTE: Dimensions are shown in millimeters, mm

NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

LEVEL	HEIGHT AT CL (mm)*		DISTANCE RIGHT OF CENTER (mm)								DISTANCE LEFT OF CENTER (mm)							
			800	700	600	500	400	300	200	100	100	200	300	400	500	600	700	800
LEVEL 4 TOP STACK	813	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	663	635	627	630	640	666	689	669	651	655	658	661	679	691	715	761
		CRUSH	44	16	8	11	21	47	70	50	32	36	39	42	60	72	96	142
LEVEL 3 MID LEVEL	686	PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	650	632	622	623	631	644	662	643	628	628	629	636	646	663	683	709
		CRUSH	31	13	3	4	12	25	43	24	9	9	10	17	27	44	64	90
LEVEL 2 TOP BUMPER	533	PRE	615	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	704	684	677	674	672	671	669	670	672	672	674	678	682	683	687	694
		CRUSH	85	65	58	55	53	52	50	51	53	53	55	59	63	64	68	75
LEVEL 1 MID BUMPER	432	PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535
		POST	686	663	650	646	649	648	649	652	653	655	659	664	664	666	674	686
		CRUSH	151	144	132	128	131	130	131	134	135	137	141	146	146	148	155	151

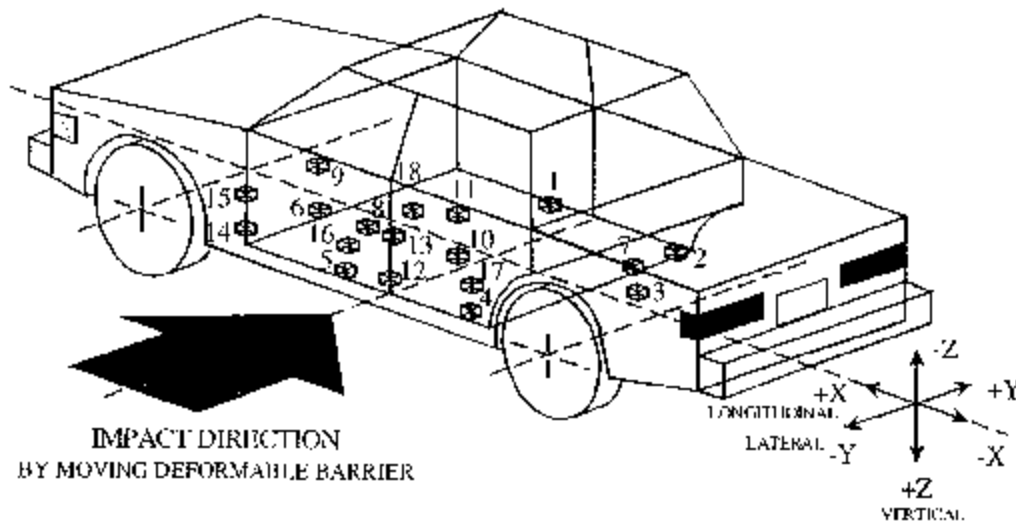
*Heights measured above ground level.

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4 Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

Accel No.	Location	Coordinates (mm)±3 mm			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1	Right Side Sill at Front Seat	3060	718	-438	pos.	55.7	25.0	7.4	5.8	78.6	27.0	7.7
					neg.	9.4	-2.2	152.9	-10.6	9.0	0.0	-14.2
2	Right Side Sill at Rear Seat	2006	672	-372	pos.	56.1	24.7	7.3	5.5	103.3	25.1	7.2
					neg.	9.3	-2.2	152.9	-8.0	17.4	0.0	-18.3
3	Rear Floorpan Above Axle	1439	19	-660	pos.	63.7	24.2	6.4	9.9	9.2	25.4	6.3
					neg.	5.2	-2.0	84.2	-7.4	14.4	0.0	-19.9
4	Left Side Sill at Rear Seat	2024	-714	-348	pos.	-	142.3	5.6	-	-	-	-
					neg.	-	-22.9	17.6	-	-	-	-
5	Left Side Sill at Front Seat	3086	-663	-386	pos.	-	109.6	5.8	-	-	-	-
					neg.	-	-18.5	11.0	-	-	-	-
6	Left Front Door on Centerline	-	-	-	pos.	-	**	**	-	-	-	-
					neg.	-	**	**	-	-	-	-
7	Right Rear Occupant Compartment	2009	394	-343	pos.	-	24.2	6.6	-	-	-	-
					neg.	-	-2.3	100.2	-	-	-	-
8	Midrear of Left Front Door	-	-	-	pos.	-	**	**	-	-	-	-
					neg.	-	**	**	-	-	-	-
9	Left Front Door Upper Centerline	-	-	-	pos.	-	**	**	-	-	-	-
					neg.	-	**	**	-	-	-	-
10	Midrear of Left Rear Door	-	-	-	pos.	-	**	**	-	-	-	-
					neg.	-	**	**	-	-	-	-
11	Left Rear Door Upper Centerline	-	-	-	pos.	-	**	**	-	-	-	-
					neg.	-	**	**	-	-	-	-

*Reference: X - Rear Bumper (+ Forward) Y - Vehicle Centerline (- To Right) Z - Ground Level (+ Down)

**Accelerometer was not requested by COTR.

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200

Accel. No.	Location	Coordinates (mm)±3 mm			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2195	-703	-436	-	-	167.3	6.7	-	-	-	-
					-	-	-217.2	20.8	-	-	-	-
13	Left Middle B-Pillar	2106	-741	-1156	-	-	130.6	10.5	-	-	-	-
					-	-	-42.0	17.0	-	-	-	-
14	Left Lower A-Pillar	3317	-712	-470	-	-	57.3	5.9	-	-	-	-
					-	-	-16.5	33.5	-	-	-	-
15	Left Middle A-Pillar	3261	-695	-1128	-	-	31.2	11.6	-	-	-	-
					-	-	-8.7	30.2	-	-	-	-
16	Front Seat Track	2278	-611	-325	-	-	§	§	-	-	-	-
					-	-	§	§	-	-	-	-
17	Rear Seat Track	1770	-489	-388	-	-	38.3	26.3	-	-	-	-
					-	-	-13.4	33.8	-	-	-	-
18	Vehicle CG	2649	30	-601	10.9	16.2	92.9	25.1	21.6	21.2	92.9	25.1
					-22.2	34.2	-15.6	32.4	-23.0	38.1	0.0	-10.7

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Down)

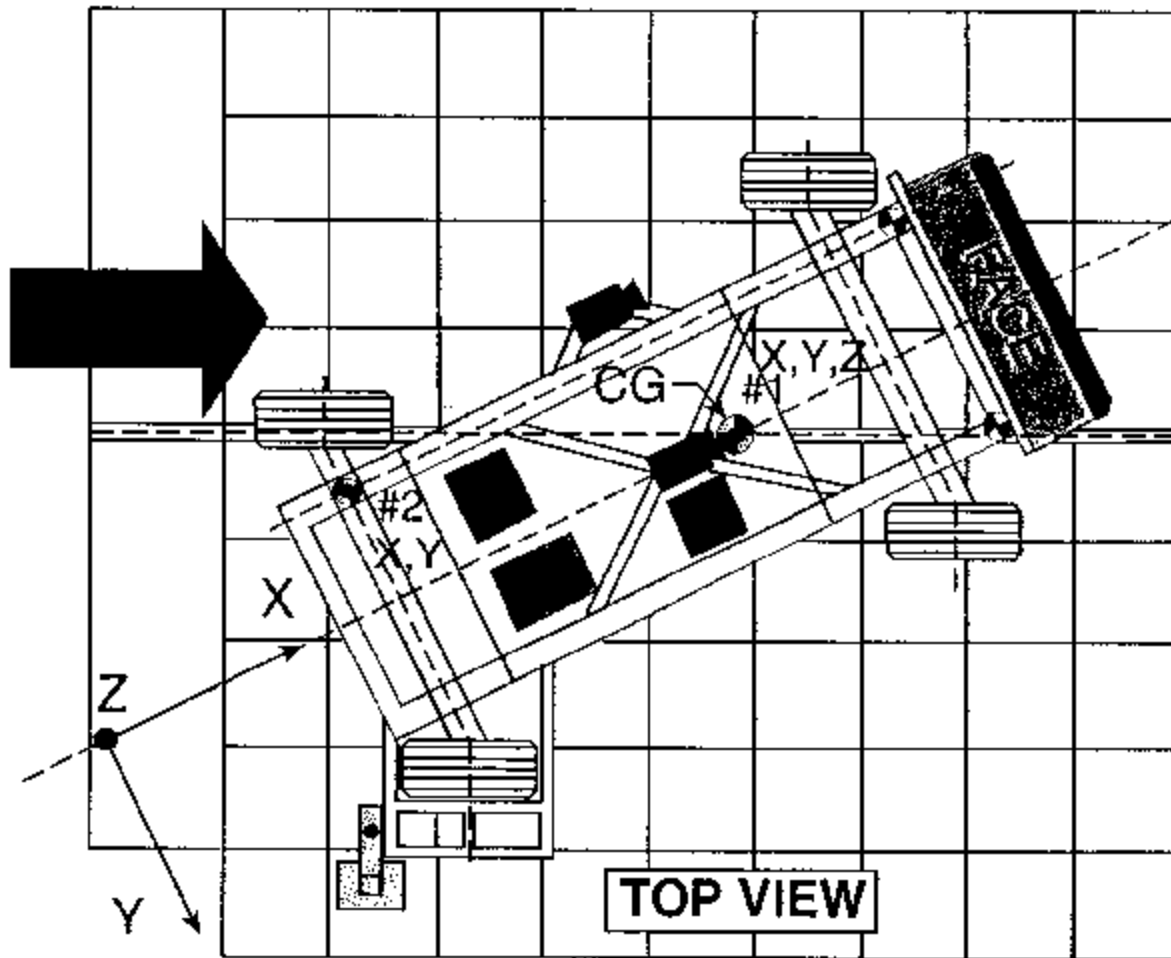
§ - Data is Clipped

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Cent of Gravity							
	Longitudinal... X	1859	0	-330	1.1	100.2	-18.4	41.0
	Lateral..... Y				†	†	†	†
	Vertical..... Z				9.7	11.9	-13.5	16.5
	Resultant..... R				†	†	†	†
2	Rear Frame Member							
	Longitudinal... X	386	-660	-660	1.8	96.0	-20.0	25.4
	Lateral..... Y				2.2	68.4	-5.2	33.1

*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Down)
 All measurements accurate to within ± 3 mm.

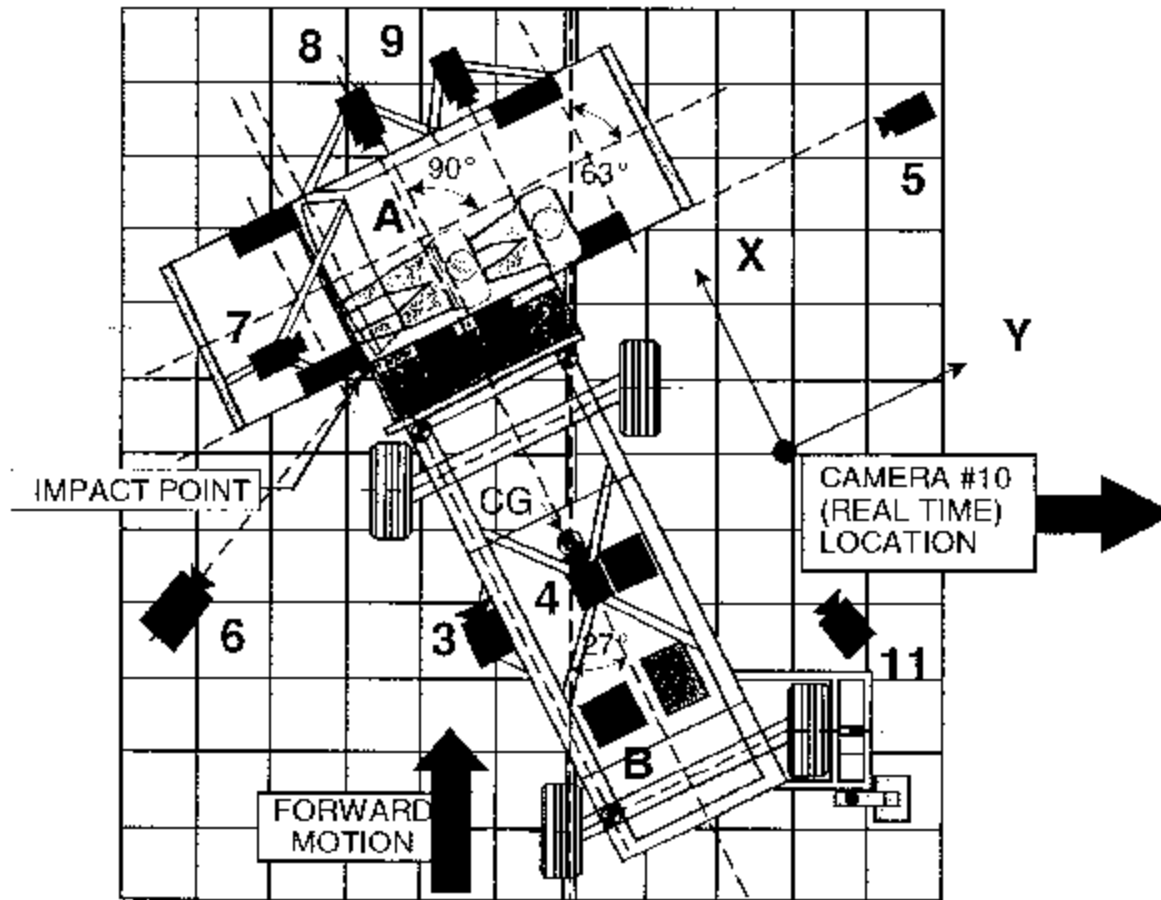
† - Data is Questionable

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2003 Nissan Murano MPV

NHTSA No. C35200



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	300	905	-4880	-90	8	1005
2	Overhead closeup view of impact plane	45	744	-4880	-90	12.5	1010
3	MDR onboard closeup view of impact point	-1470	0	-847	0	13	1010
4	MDB onboard view of driver (dummy)	-1140	838	-1586	-17	7.5	1020
5	Right side ground level overall view	34	9333	-1090	-3	25	1020
6	Left side ground level overall view	-1974	-1249	-1063	-5	13	1005
7	Test vehicle onboard driver front view	508	-585	-1422	-10	13	895
8	Test vehicle onboard driver side view	1901	745	-1216	-5	8	1020
9	Test vehicle onboard passenger side view	1922	1595	-1285	8	8	1010
10	Real time film coverage of test	-	-	-	-	-	24

* Reference (from point of impact): all measurements accurate to within ± 6 mm.

X = (Impact Point) + Forward

Y = (Impact Point) + To Right

Z = (Ground Level) + Down

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

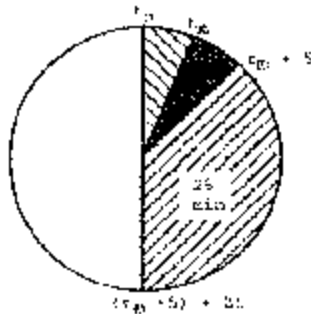
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.: C35200 TEST DATE: April 15, 2003
 Vehicle Mfr./Make/Model: Nissan Motor Company, Ltd. 2003 Nissan Murano MPV

TEST VEHICLE IMPACT TYPE:

- Frontal (48.28 kph)
- Oblique (48.28 kph) with - ° barrier face first
 contacting the - side
 (driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.0 kph)
 contacting the driver side side
 (driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS:

None

DATA SHEET 17
ROLLOVER DATA

Vehicle: 2003 Nissan Murano MPV

NHTSA No.: C35200



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Stage	Rotation Time (spec. 1-3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
0° - 90°	1	minutes	13	seconds	5	minutes	6	minutes	13	seconds	7	minutes
90° - 180°	1	minutes	06	seconds	5	minutes	6	minutes	6	seconds	7	minutes
180°-270°	1	minutes	02	seconds	5	minutes	6	minutes	2	seconds	7	minutes
270°-360°	1	minutes	10	seconds	5	minutes	6	minutes	10	seconds	7	minutes

II. FMVSS 301 REQUIREMENTS: (Maximum allowable solvent spillage):

First 5 minutes from onset of rotation	6th min.	7th min.	8th min. (if required)
142 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

Rollover Stage	First 5 minutes from onset of rotation (g)	6th min. (g)	7th min. (g)	8th min. (if required) (g)
0° - 90°	0	0	0	N/A
90° - 180°	0	0	0	N/A
180°-270°	0	0	0	N/A
270°-360°	0	0	0	N/A

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

Rollover Stage	Spillage Location
0° - 90°	None
90° - 180°	None
180°-270°	None
270°-360°	None

APPENDIX A
PHOTOGRAPHS

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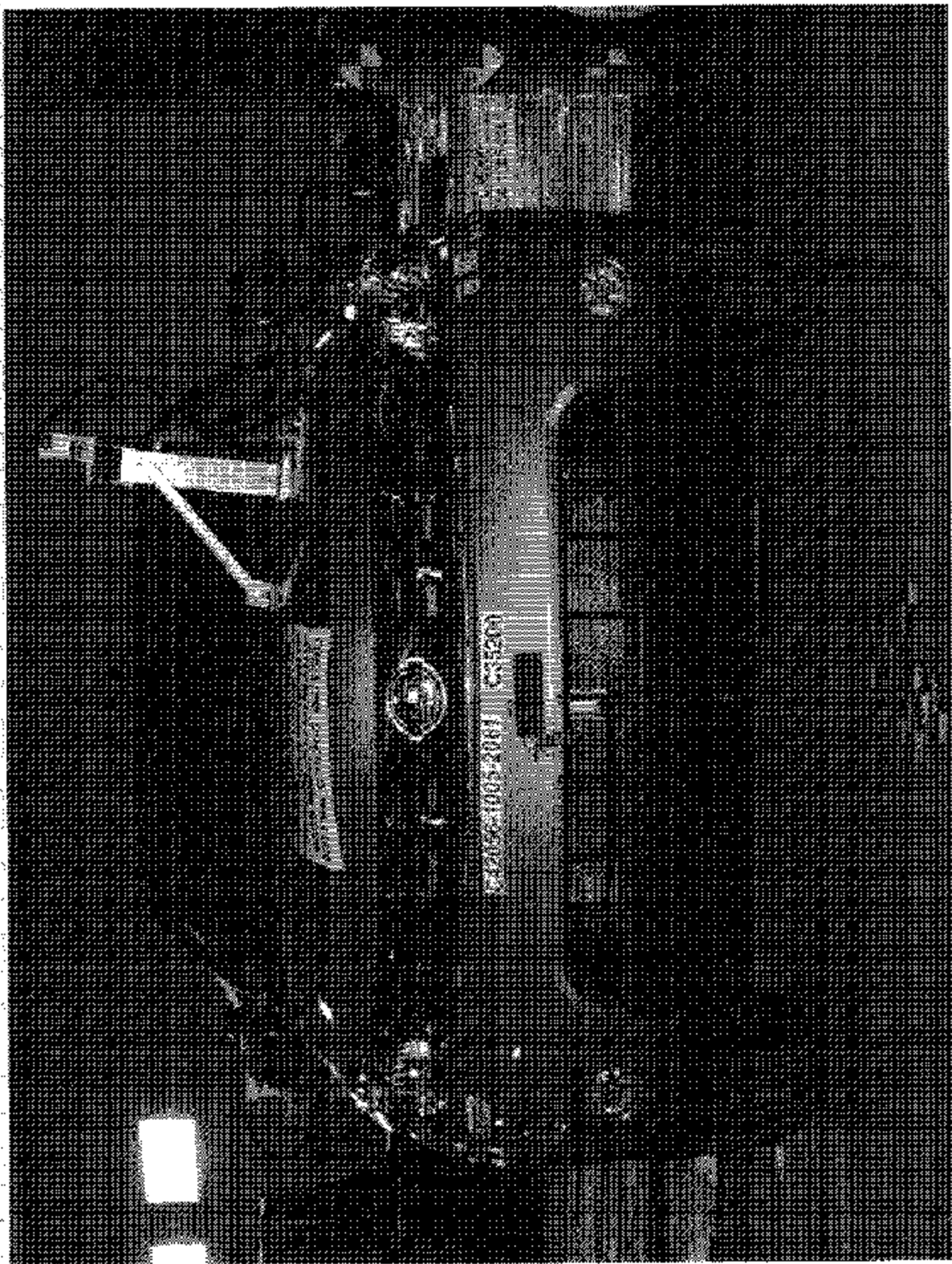


Figure A-1 PRE-TEST FRONTAL VIEW OF TEST VEHICLE

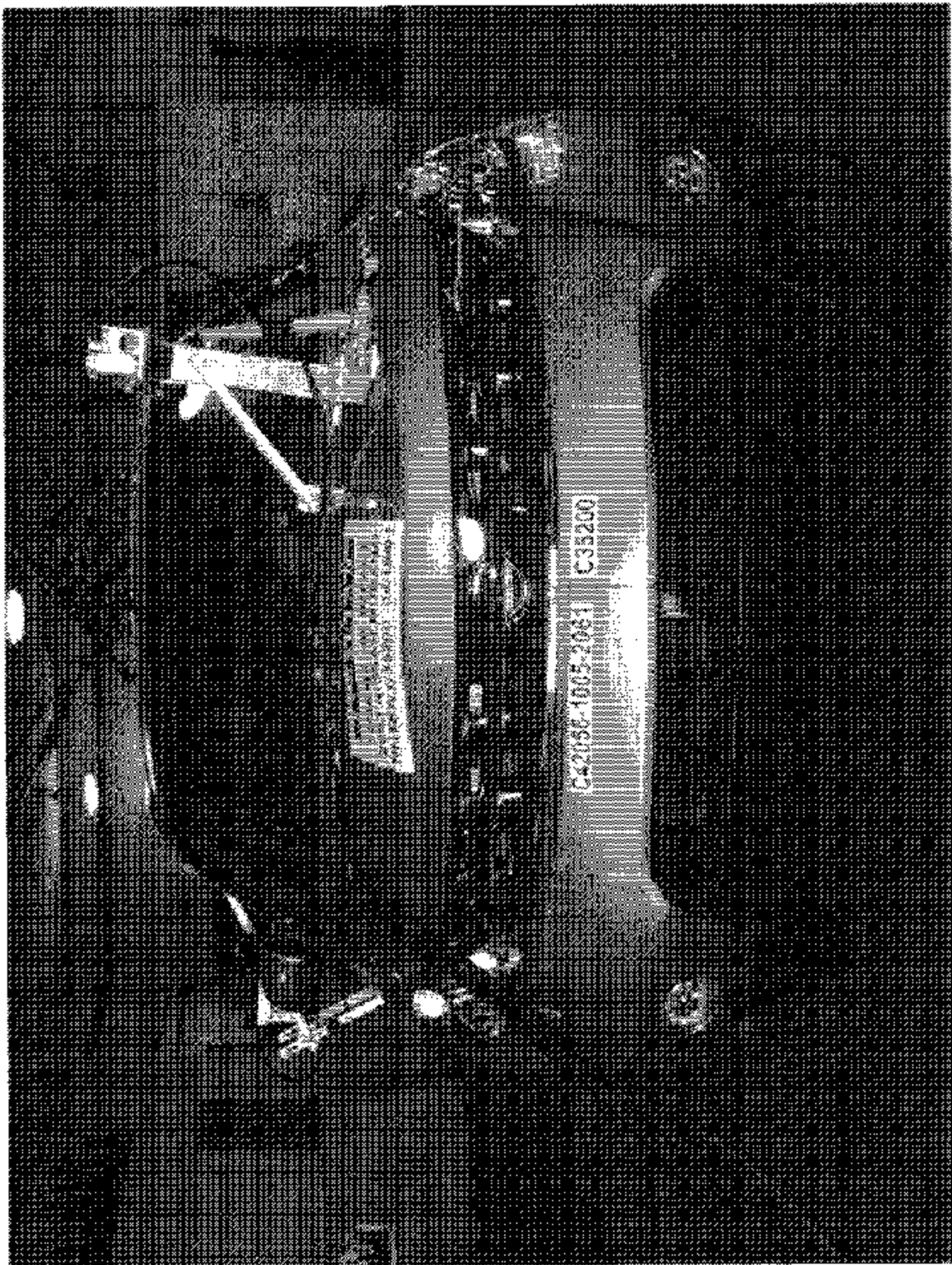


Figure A-2 POST-TEST FRONTAL VIEW OF TEST VEHICLE

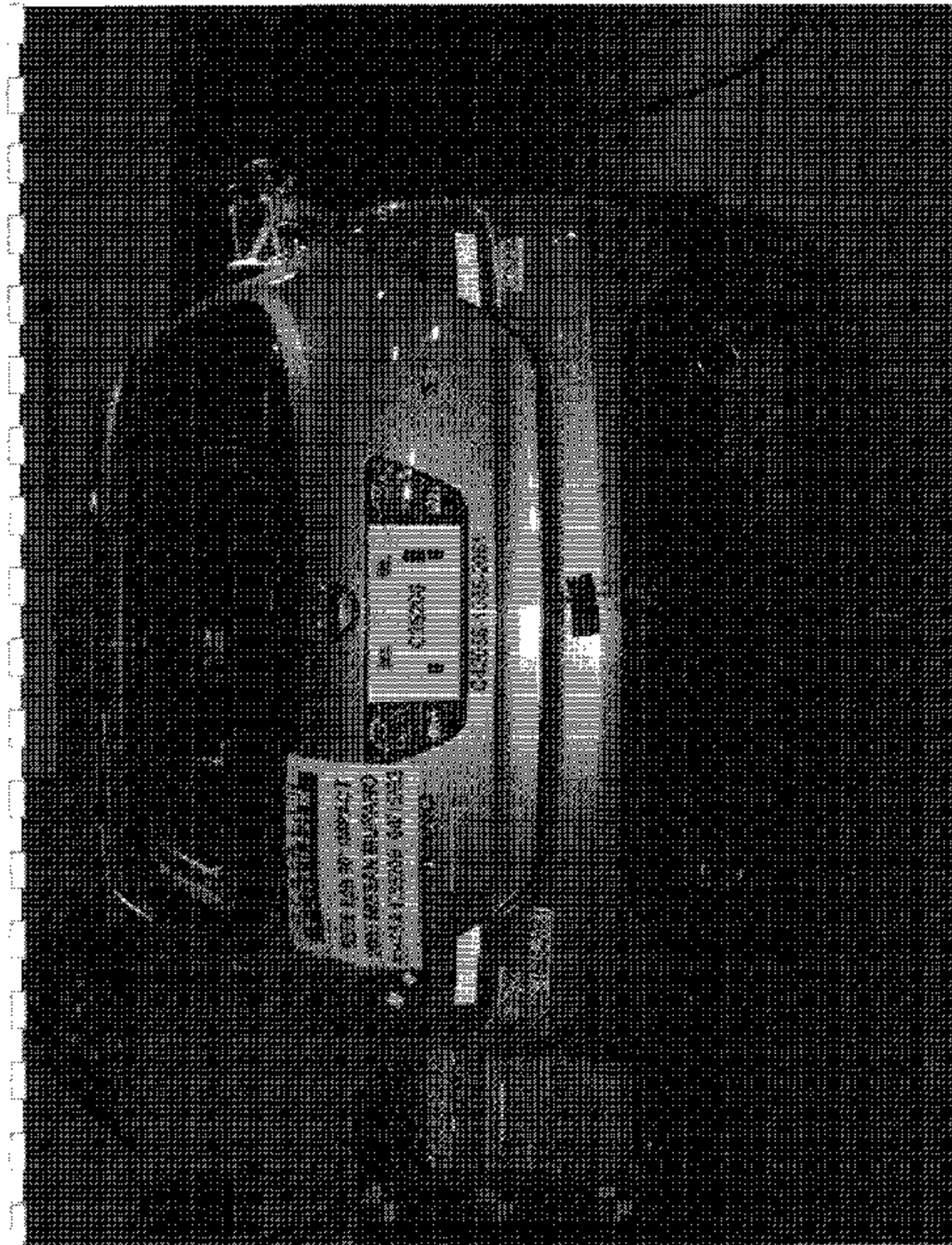


Figure A-3 PRE-TEST REAR VIEW OF TEST VEHICLE



Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE

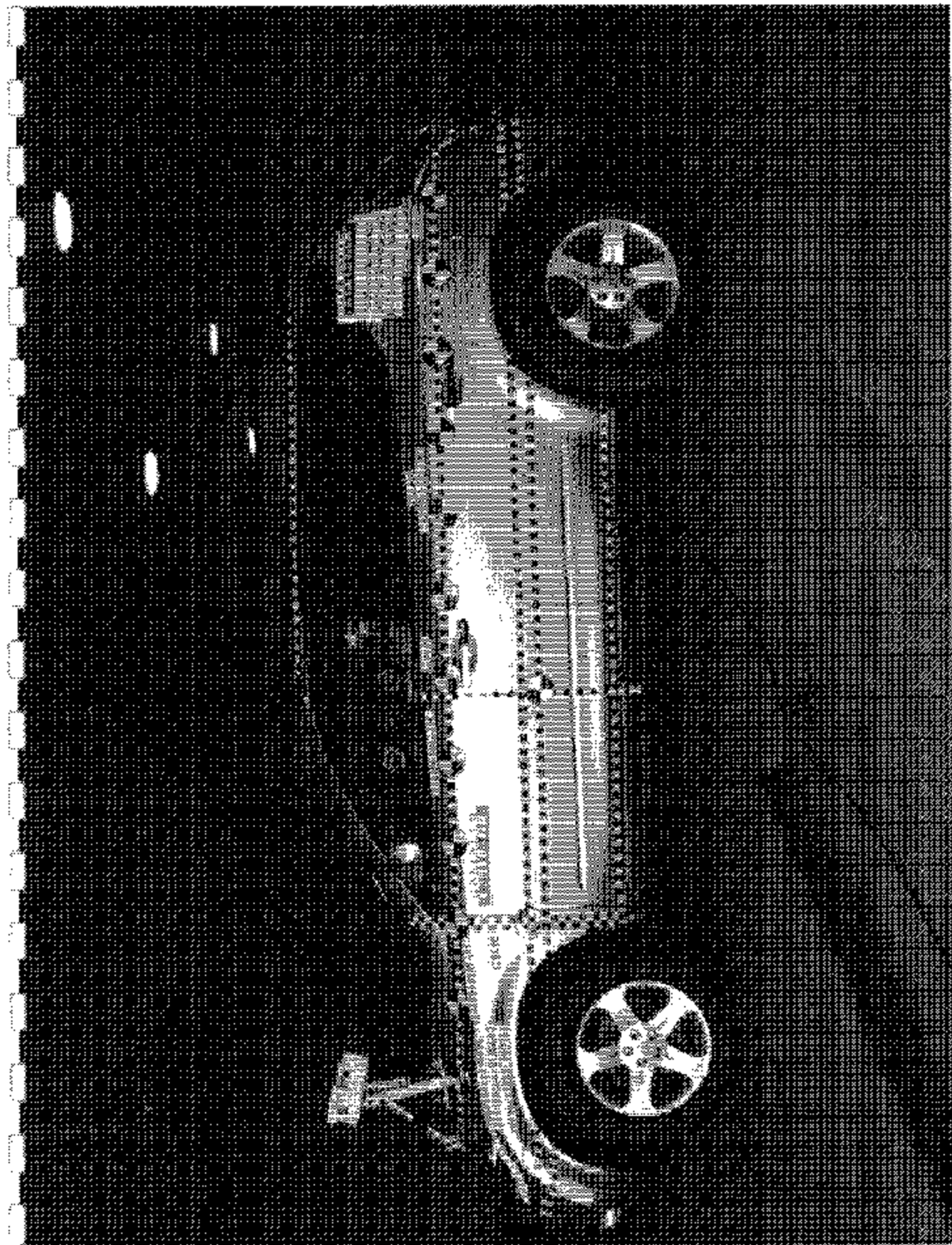


Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

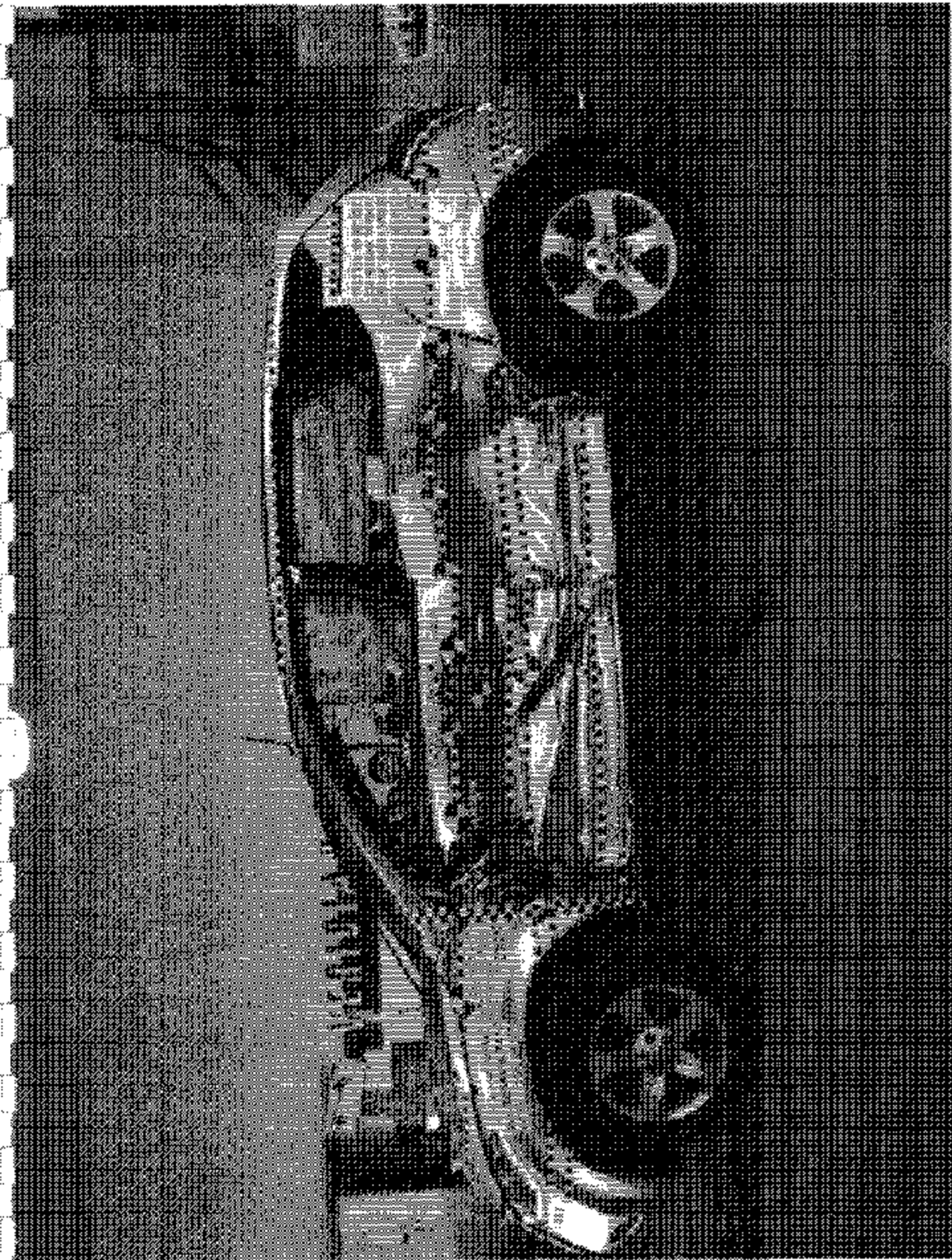


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

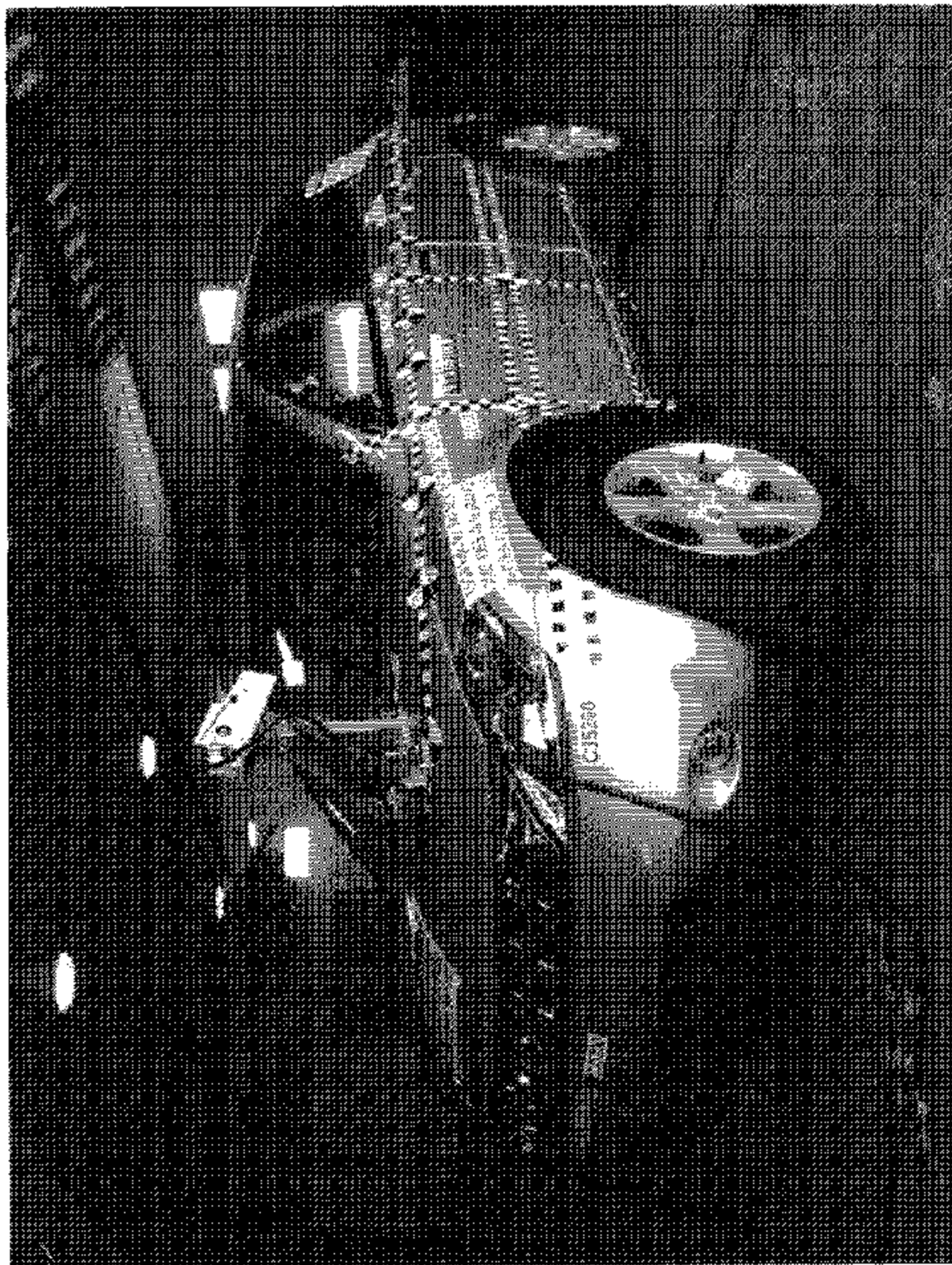


Figure A-7 PRE-TEST LEFT FRONT VIEW OF TEST VEHICLE

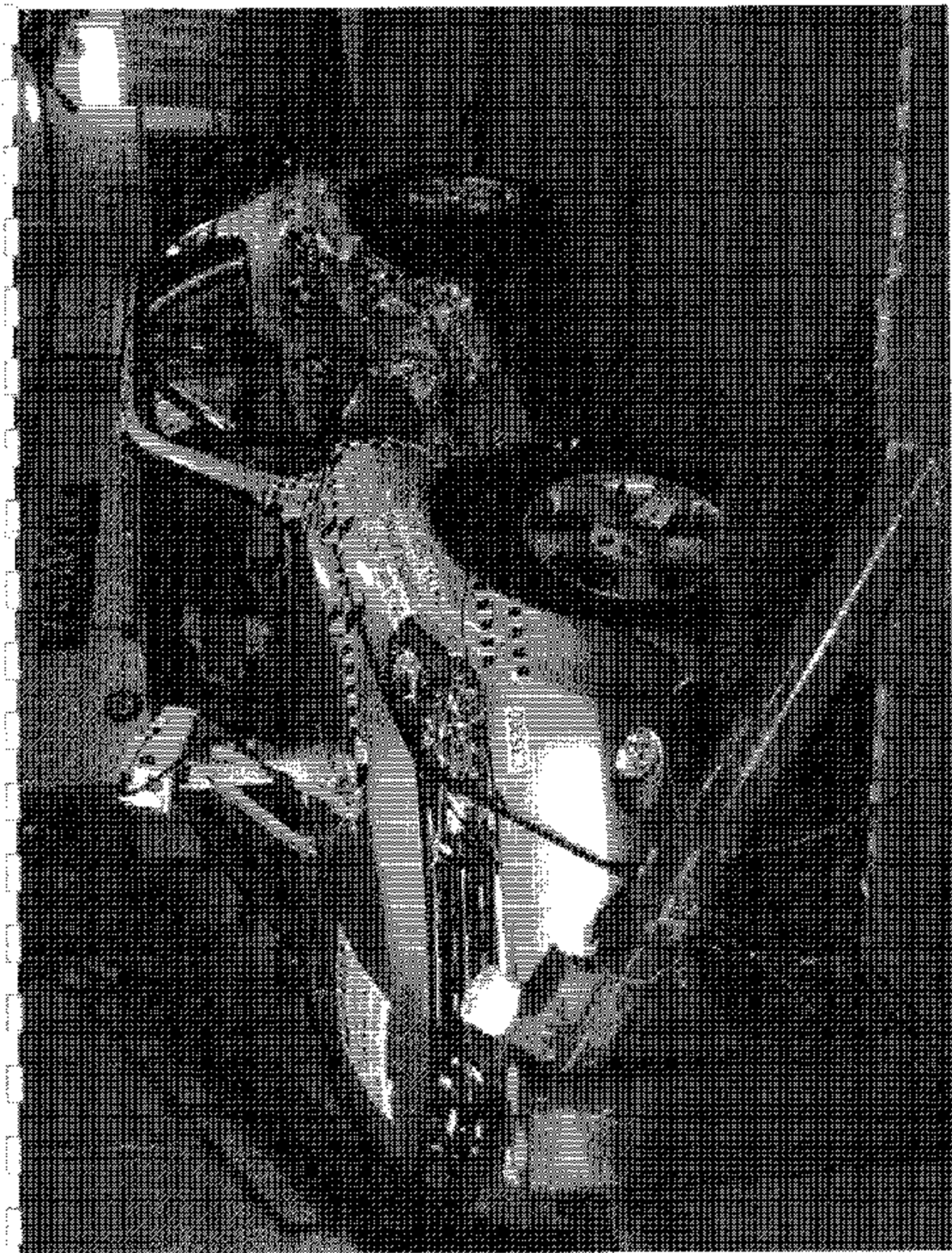


Figure A-8 POST-TEST LEFT FRONT VIEW OF TEST VEHICLE



FIGURE A-9 PRE-TEST LEFT REAR VIEW OF TEST VEHICLE



Figure A-10 POST-TEST LEFT REAR VIEW OF TEST VEHICLE

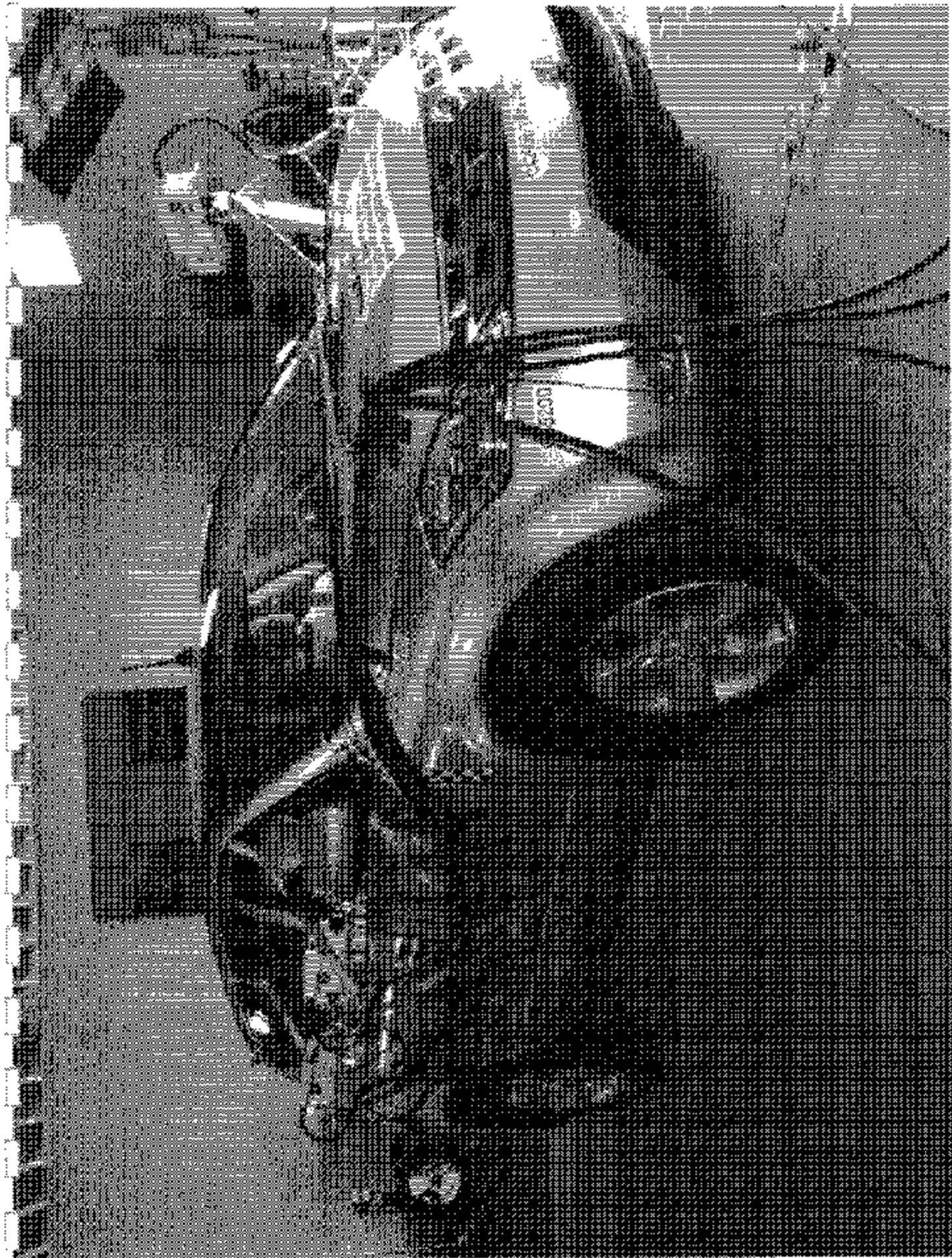


Figure A-11 PRE-TEST RIGHT FRONT VIEW OF TEST VEHICLE

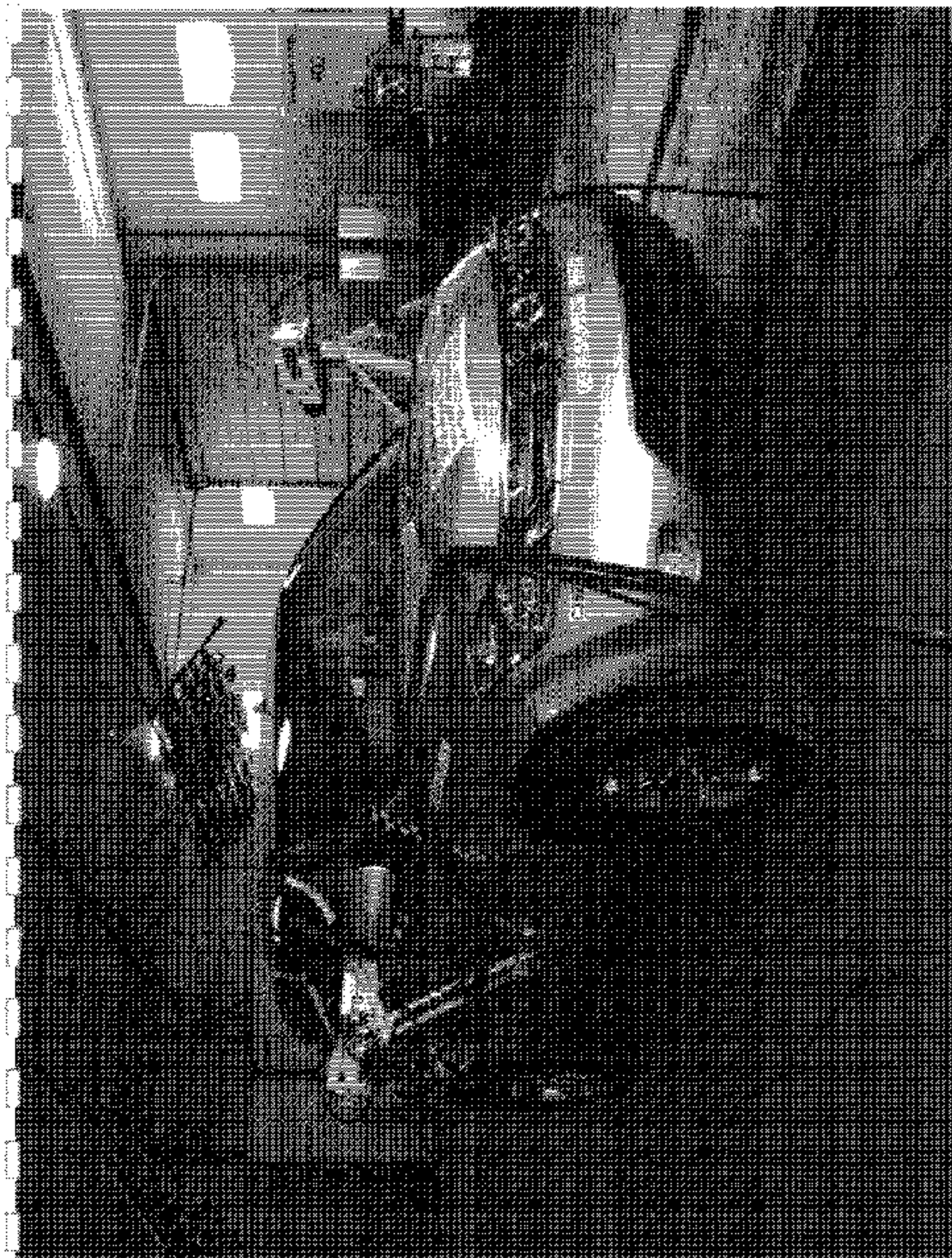


Figure A-12 POST-TEST RIGHT FRONT VIEW OF TEST VEHICLE

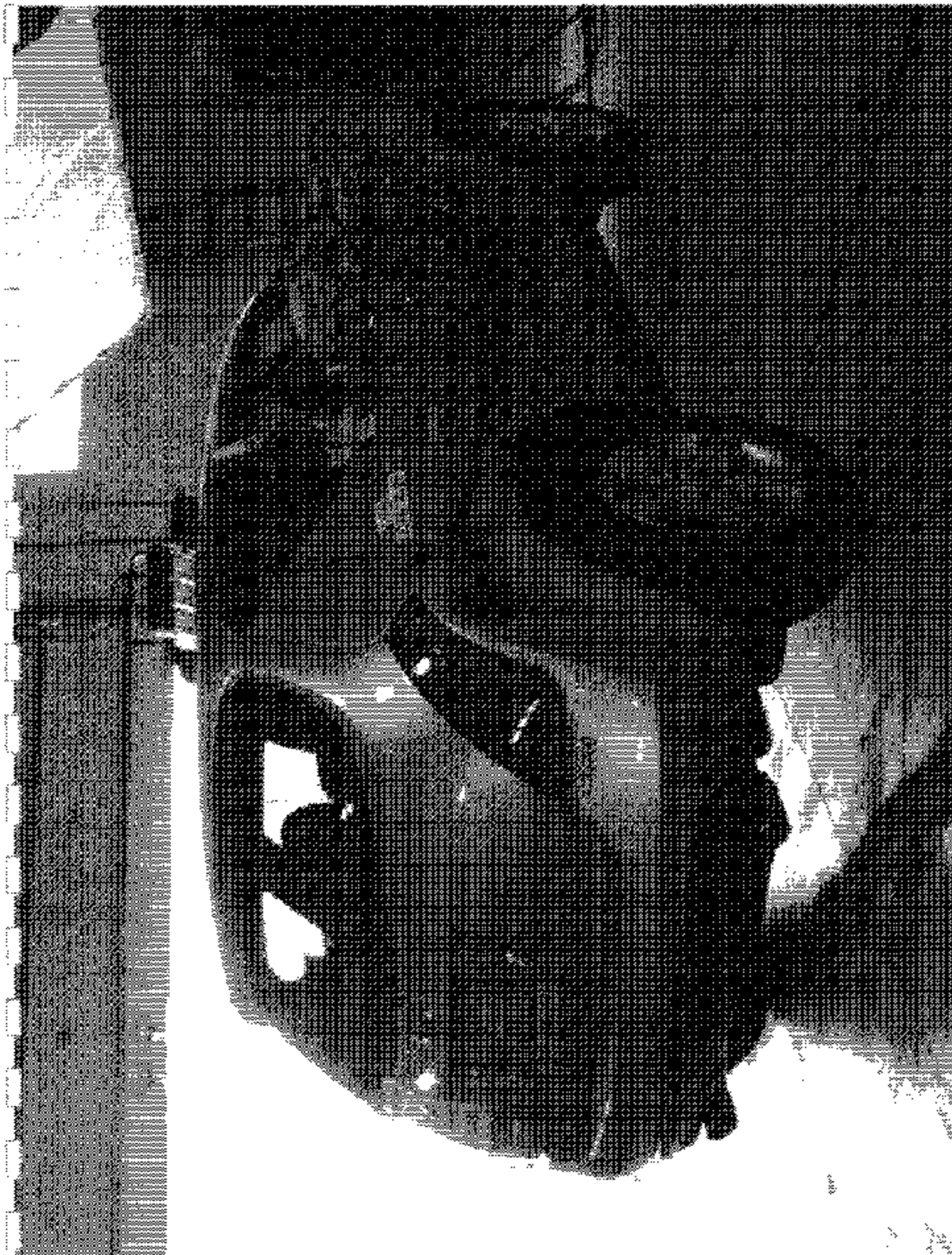


Figure A-13 PRE-TEST RIGHT REAR VIEW OF TEST VEHICLE

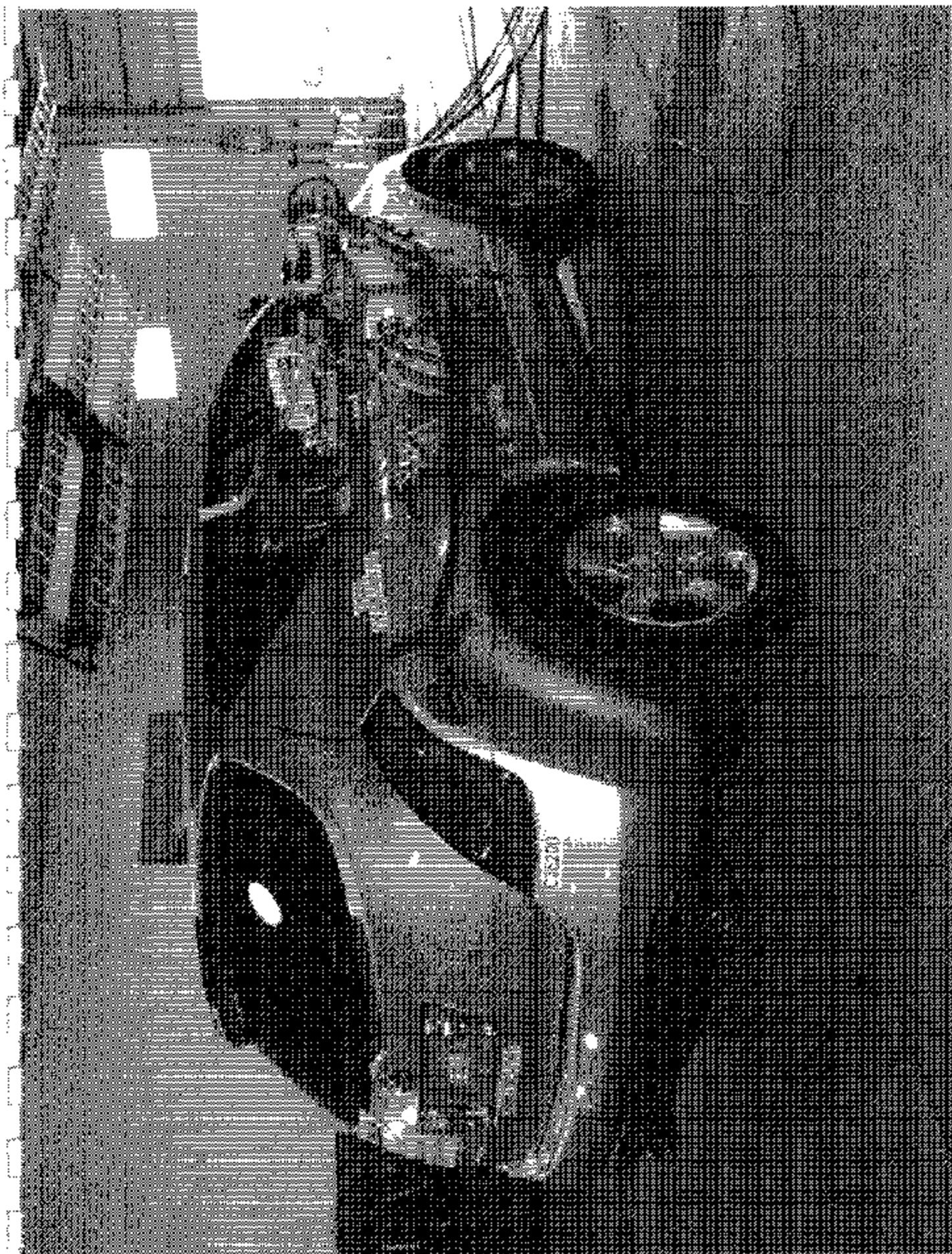


Figure A-14 POST-TEST RIGHT REAR VIEW OF TEST VEHICLE

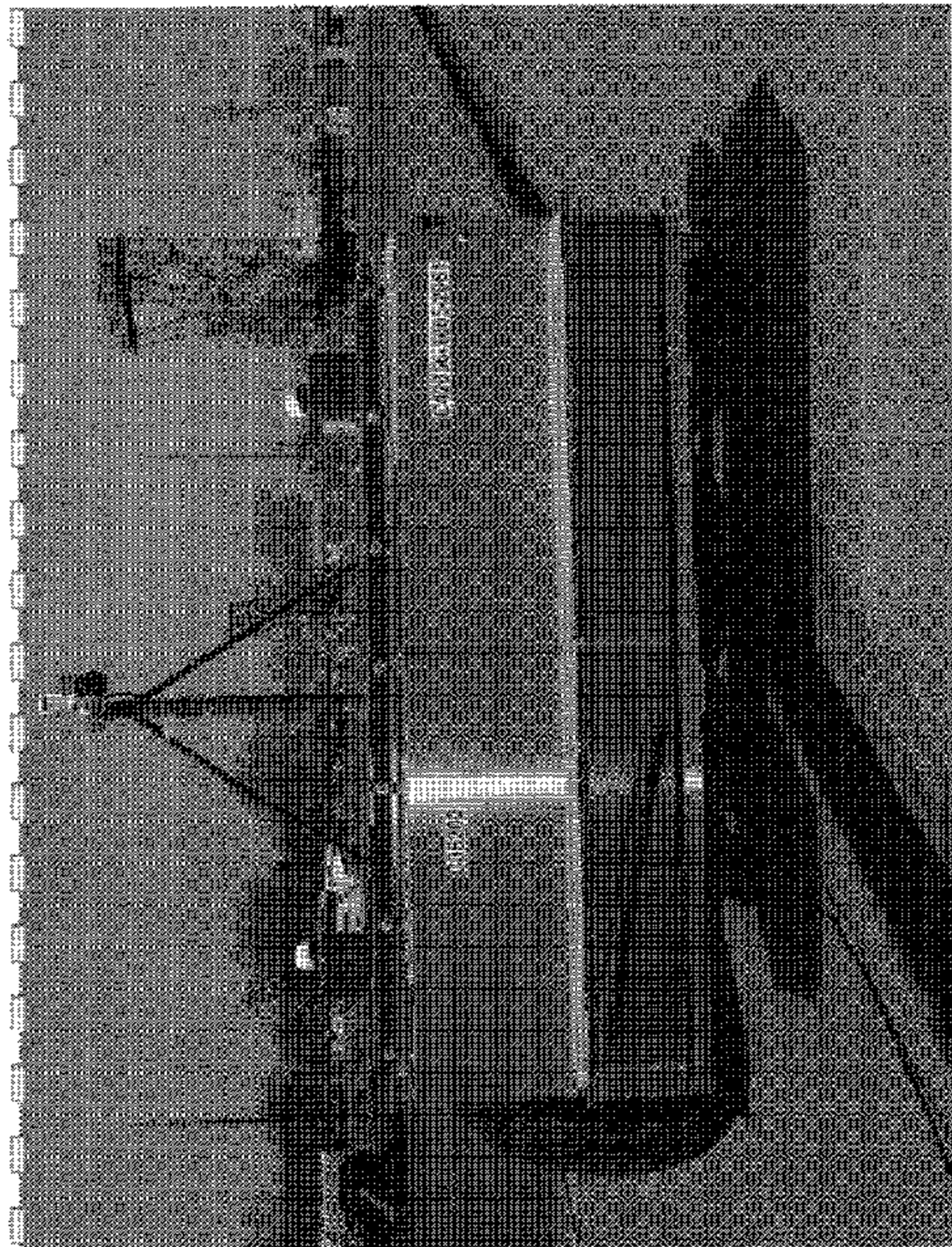


Figure A-15 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE

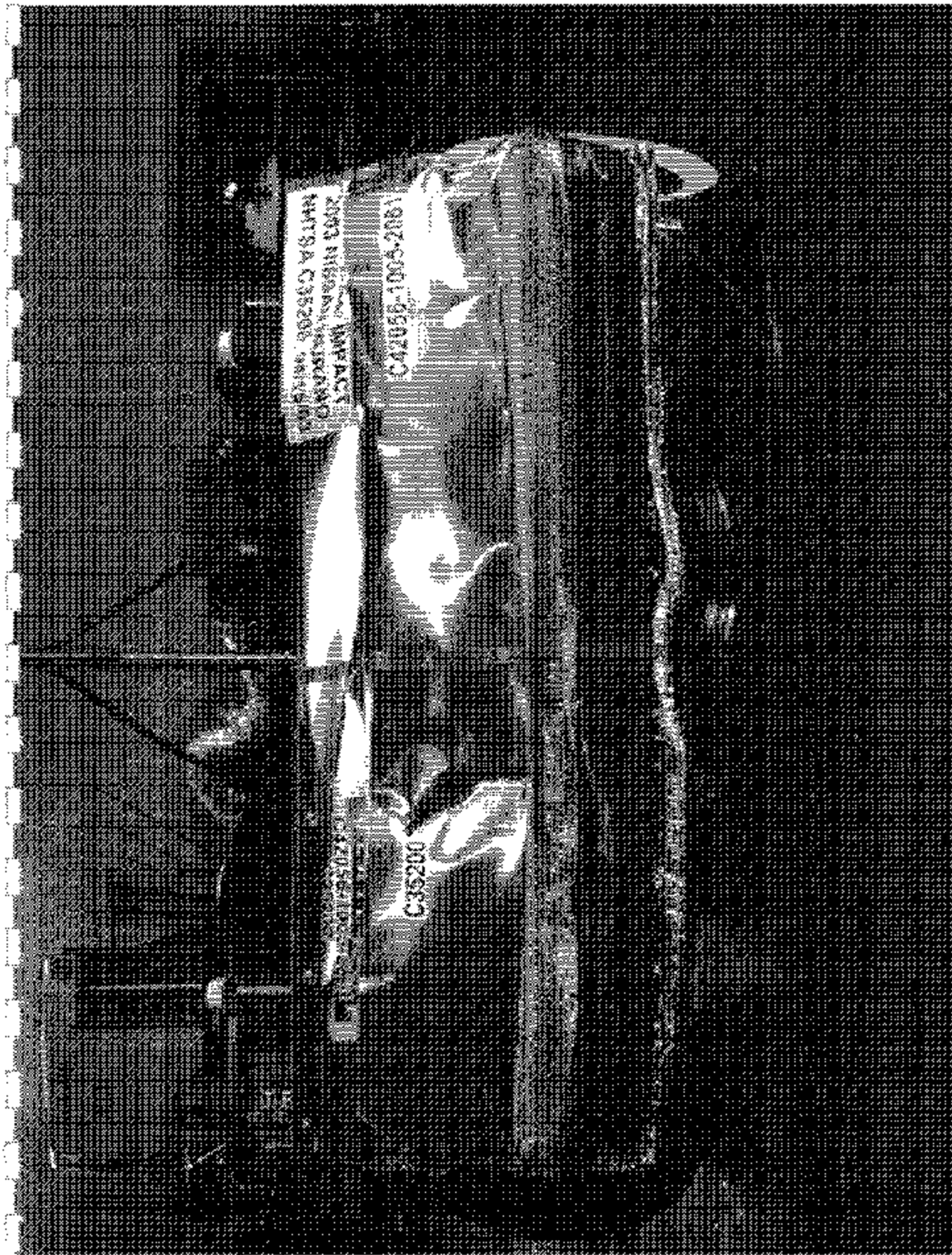


Figure A-16 POST-TEST FRONTAL VIEW OF IMPACTOR FACE

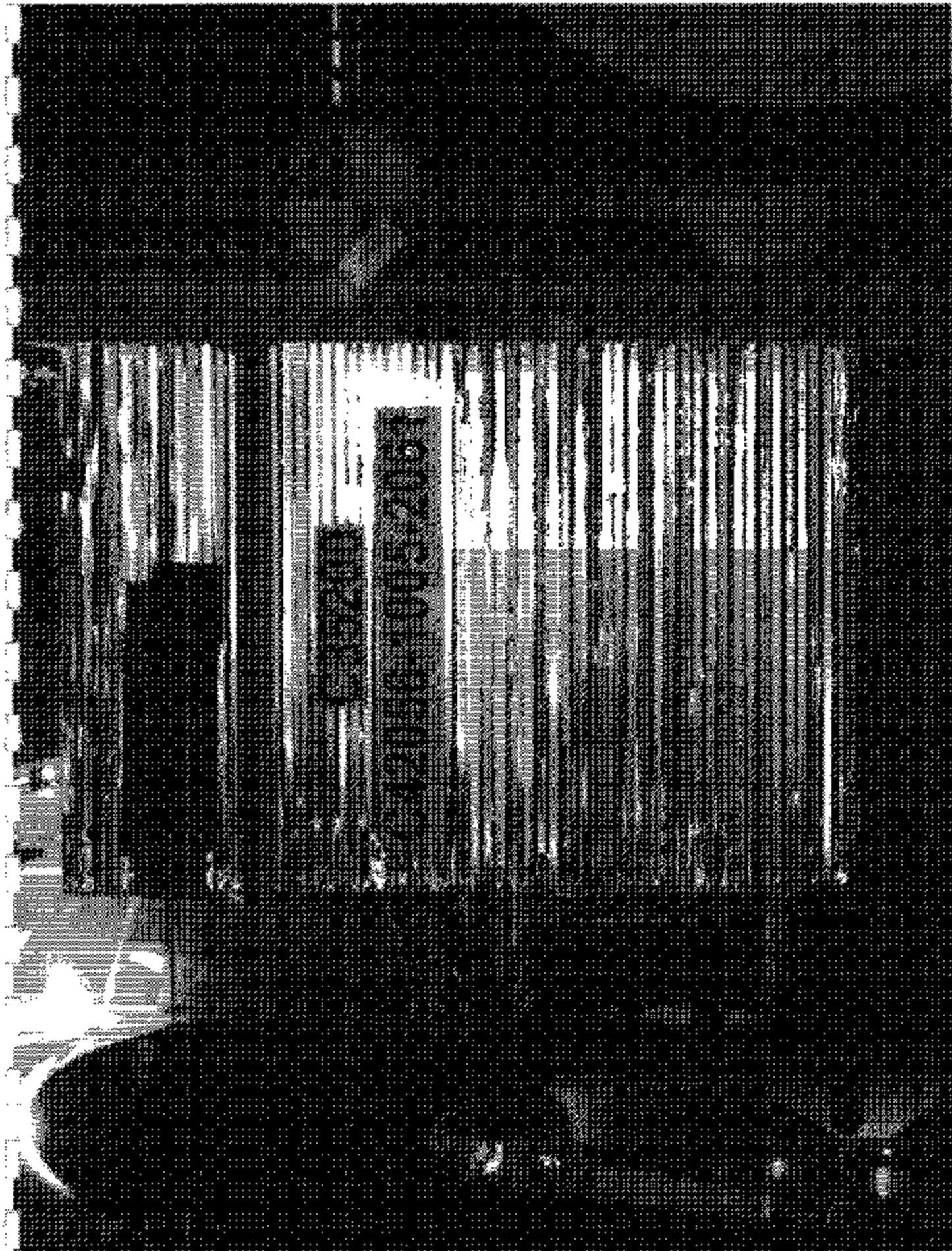


FIGURE A-17 PRE-TEST LEFT SIDE VIEW OF INP-X FOR P-A-L

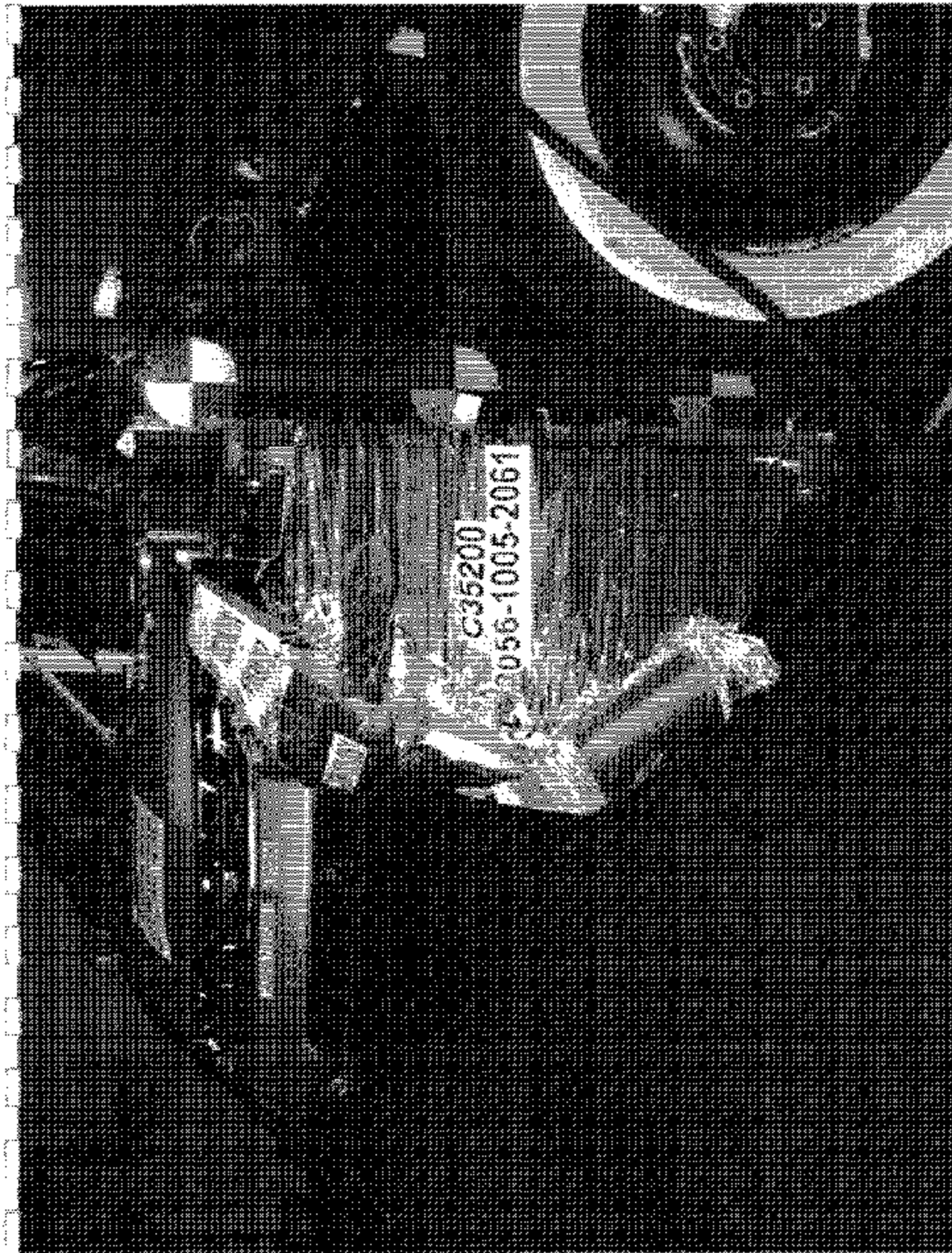


Figure A-18 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



Figure A-19 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE



Figure A-21 PRE-TEST TOP VIEW OF IMPACTOR FACE

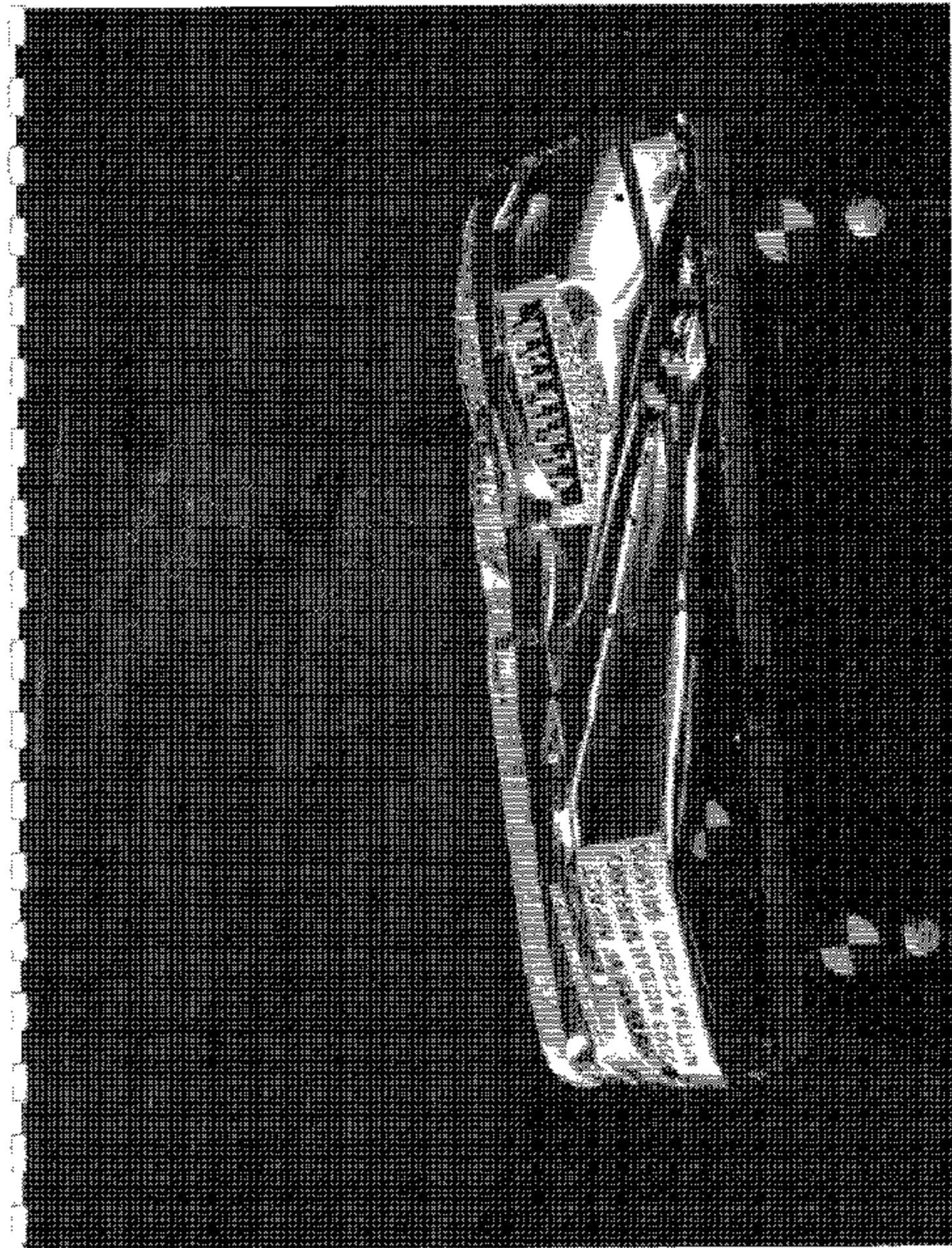


Figure A-22 POST-TEST TOP VIEW OF IMPACTOR FACE



Figure A-23 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



Figure A-24 POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE

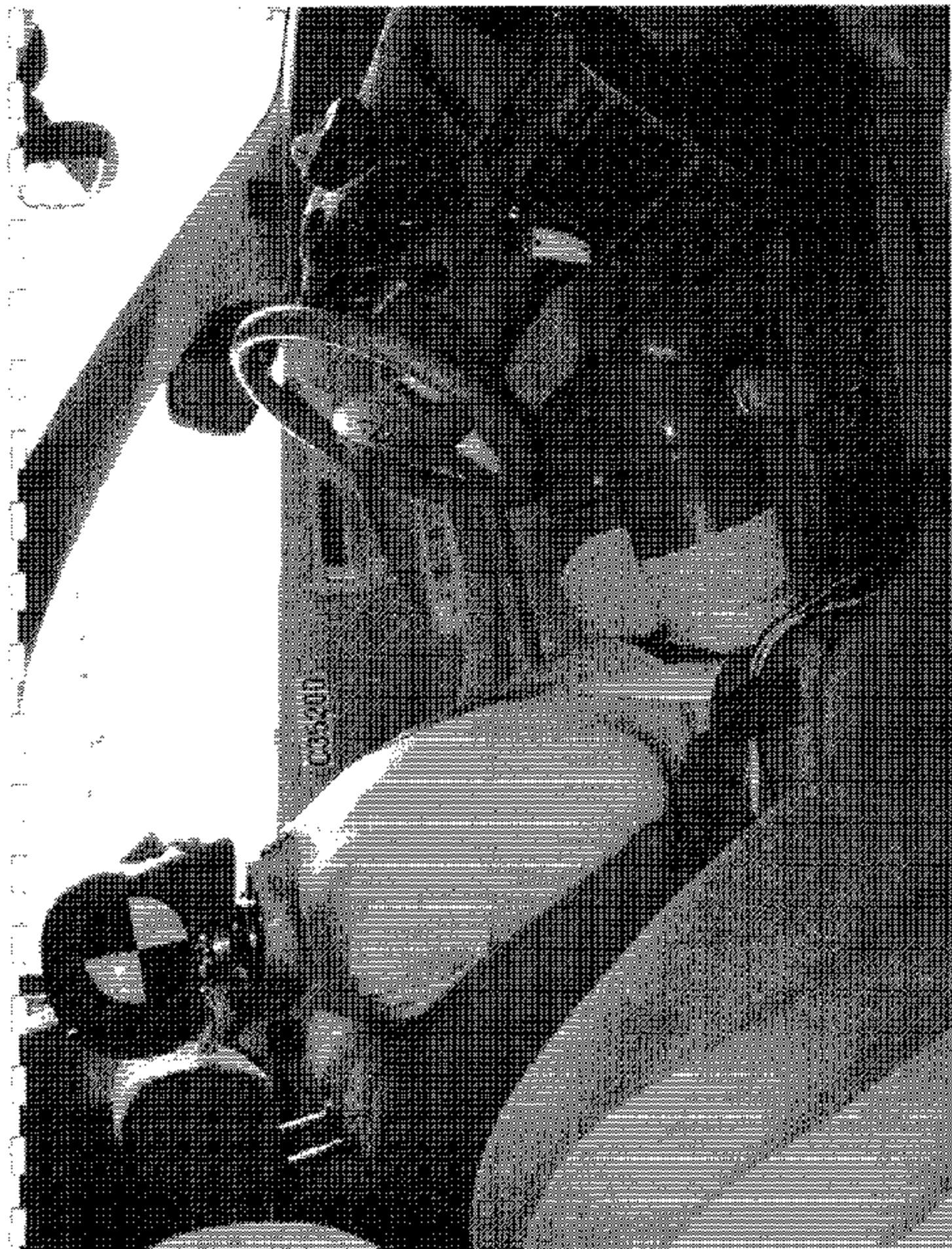


Figure A-25 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID III

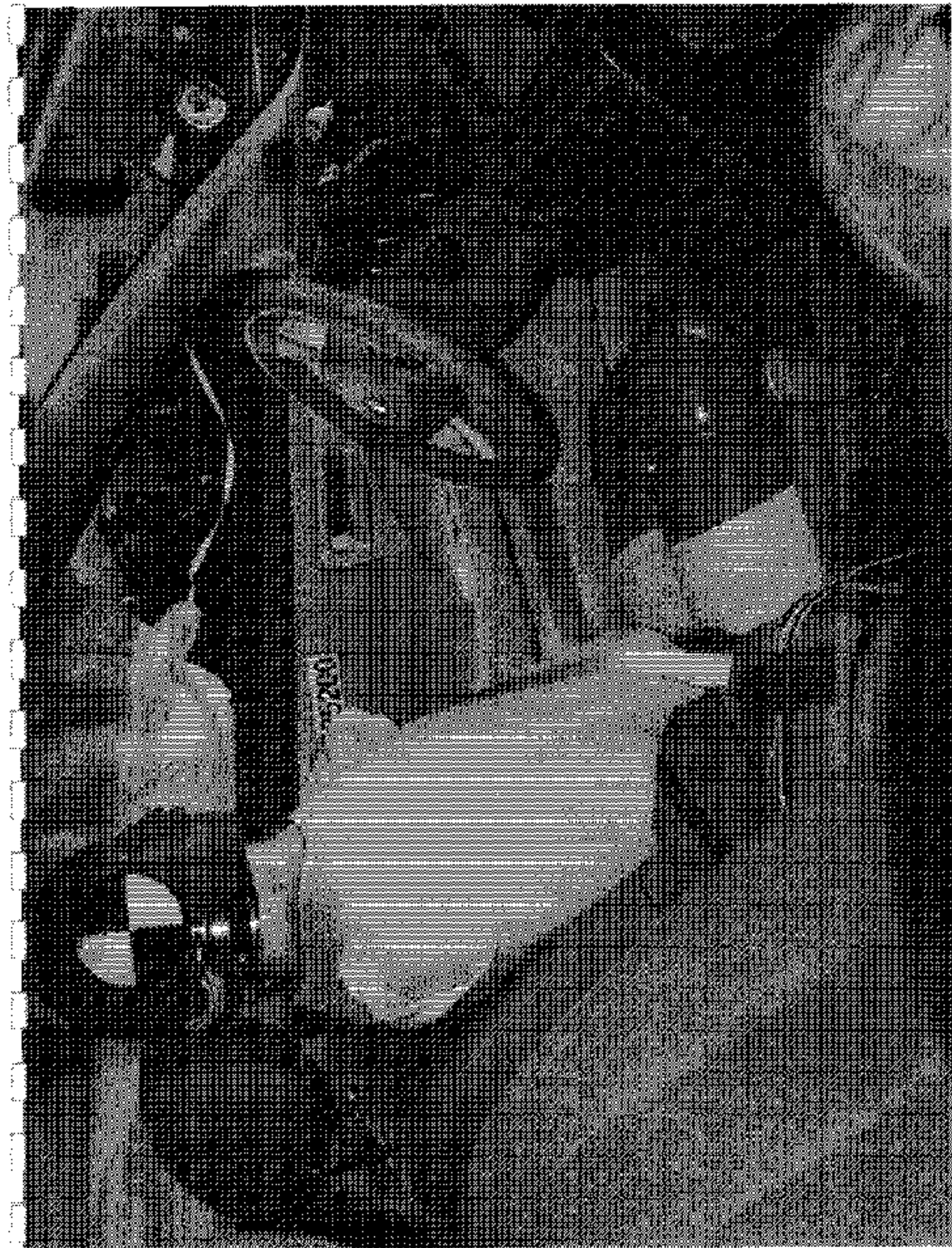


Figure A-26 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SIDE

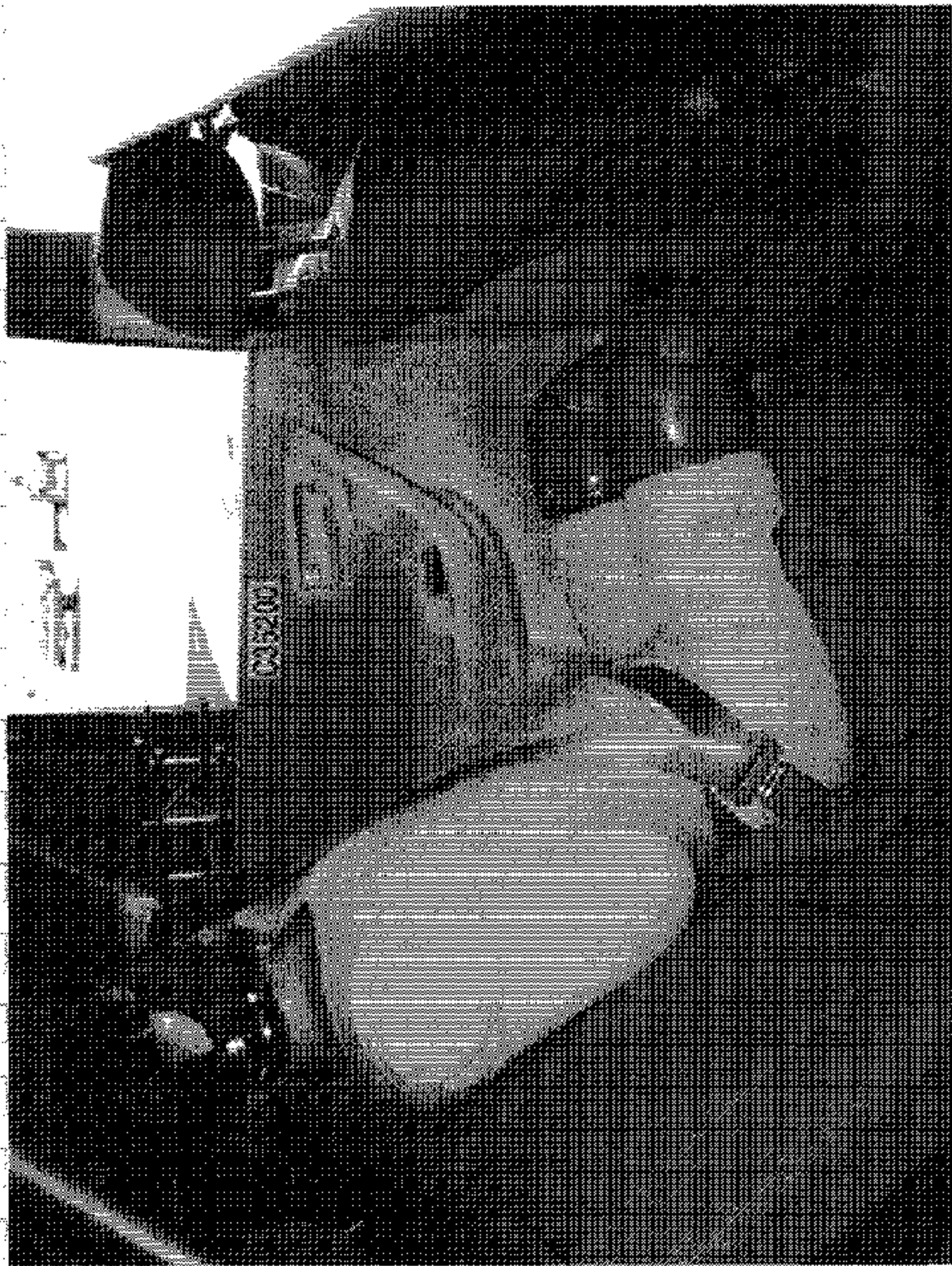


Figure A-27 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID II



Figure A-28 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID 113

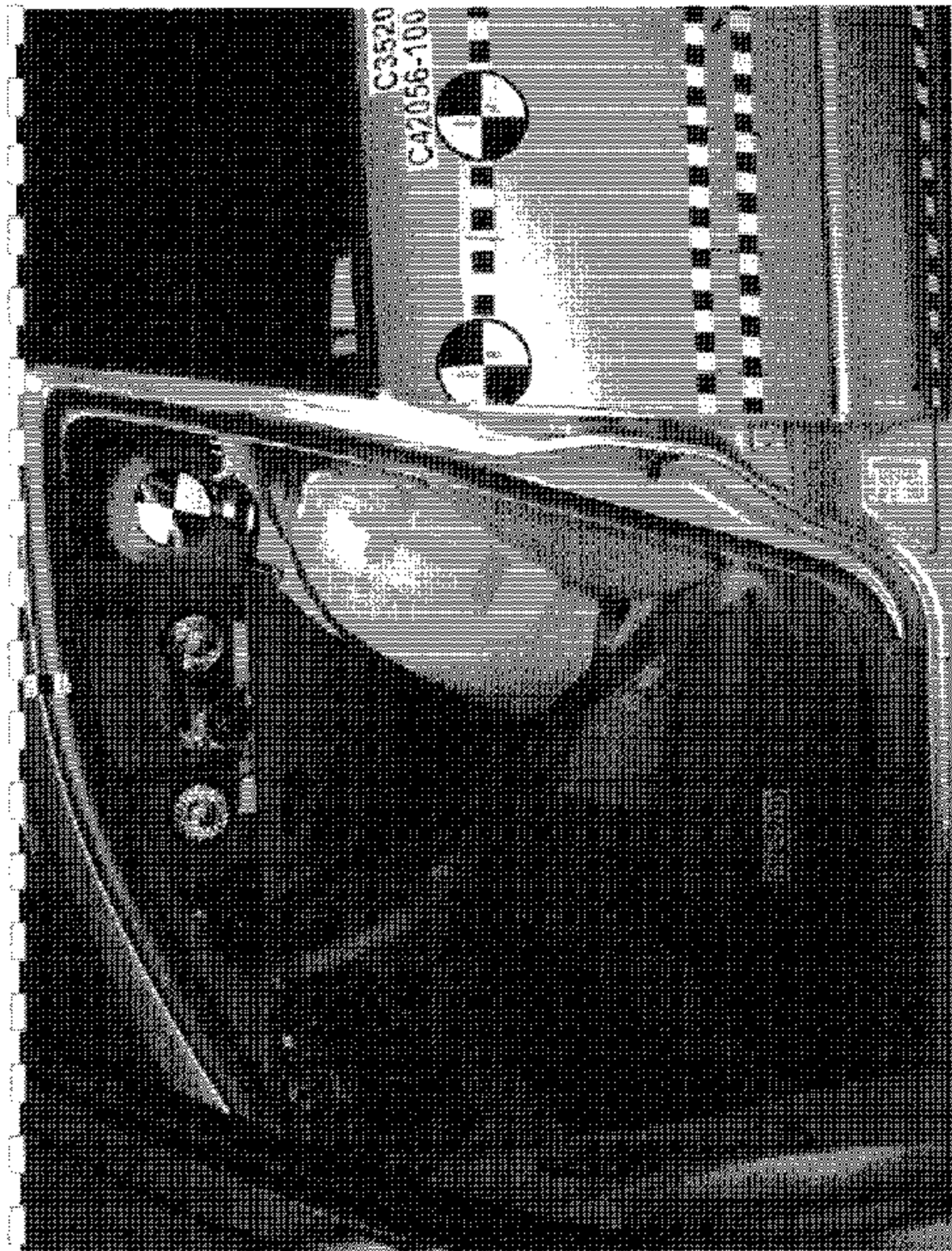


Figure A-29 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SIDE

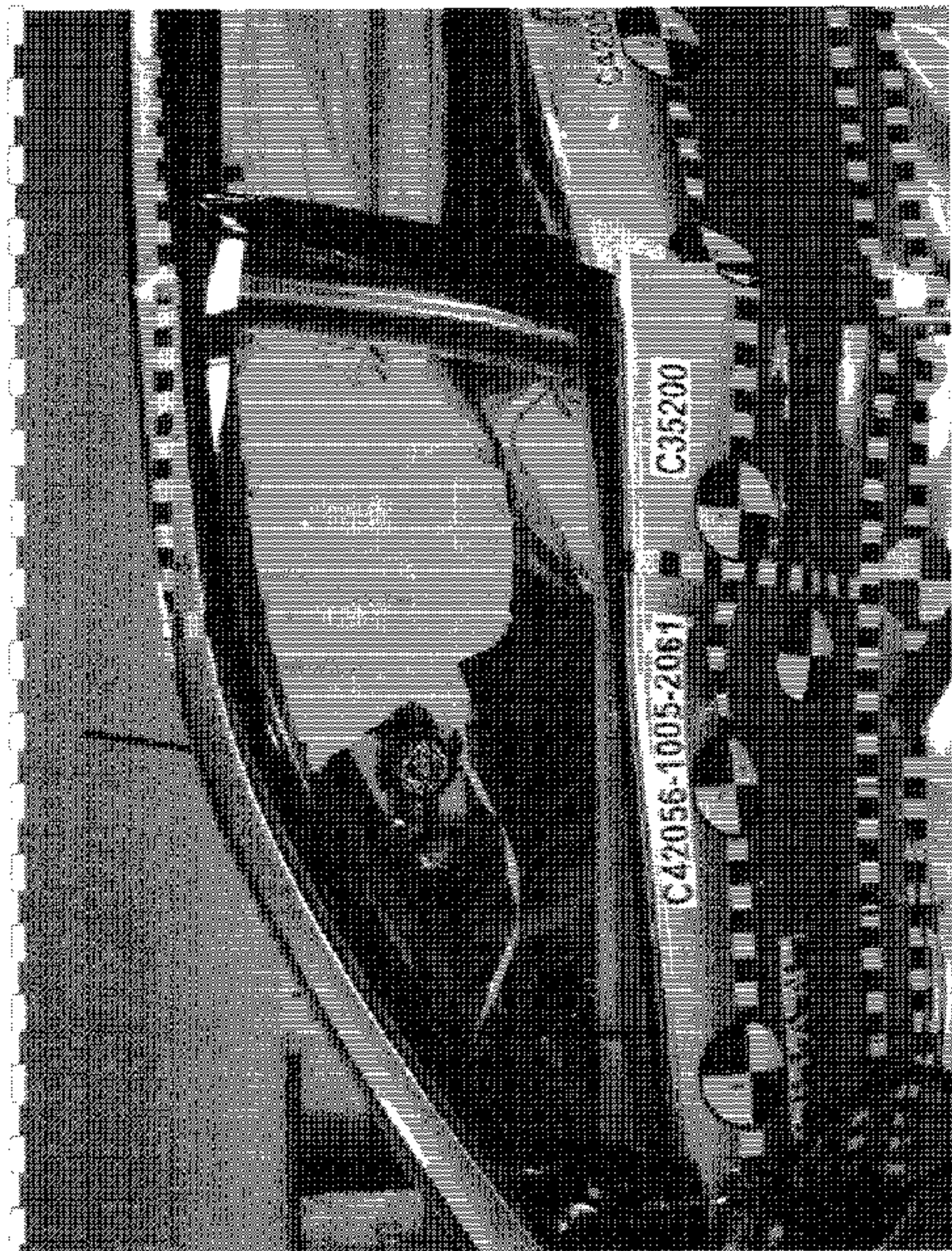


Figure A-30 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

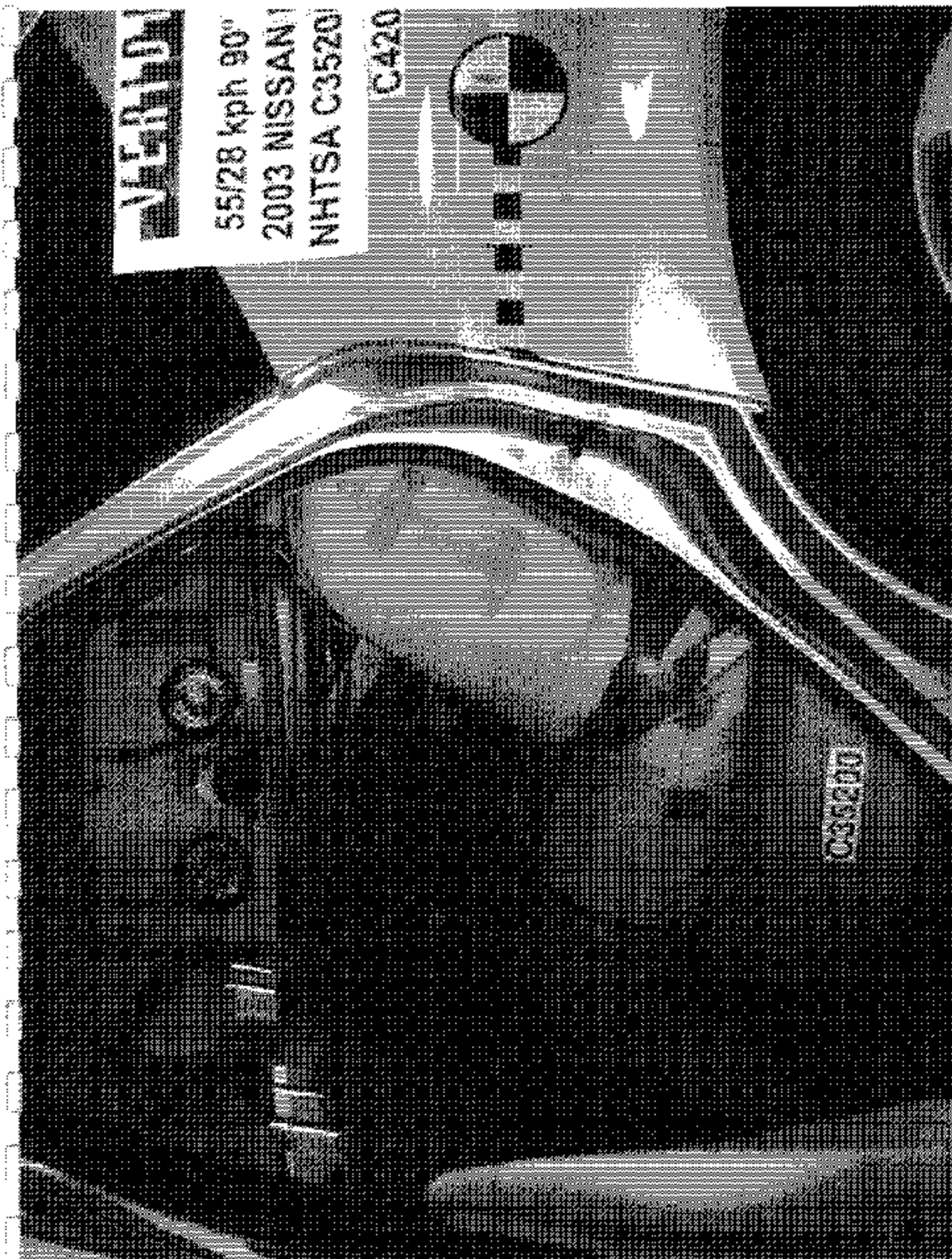


Figure A-31 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SHD H3

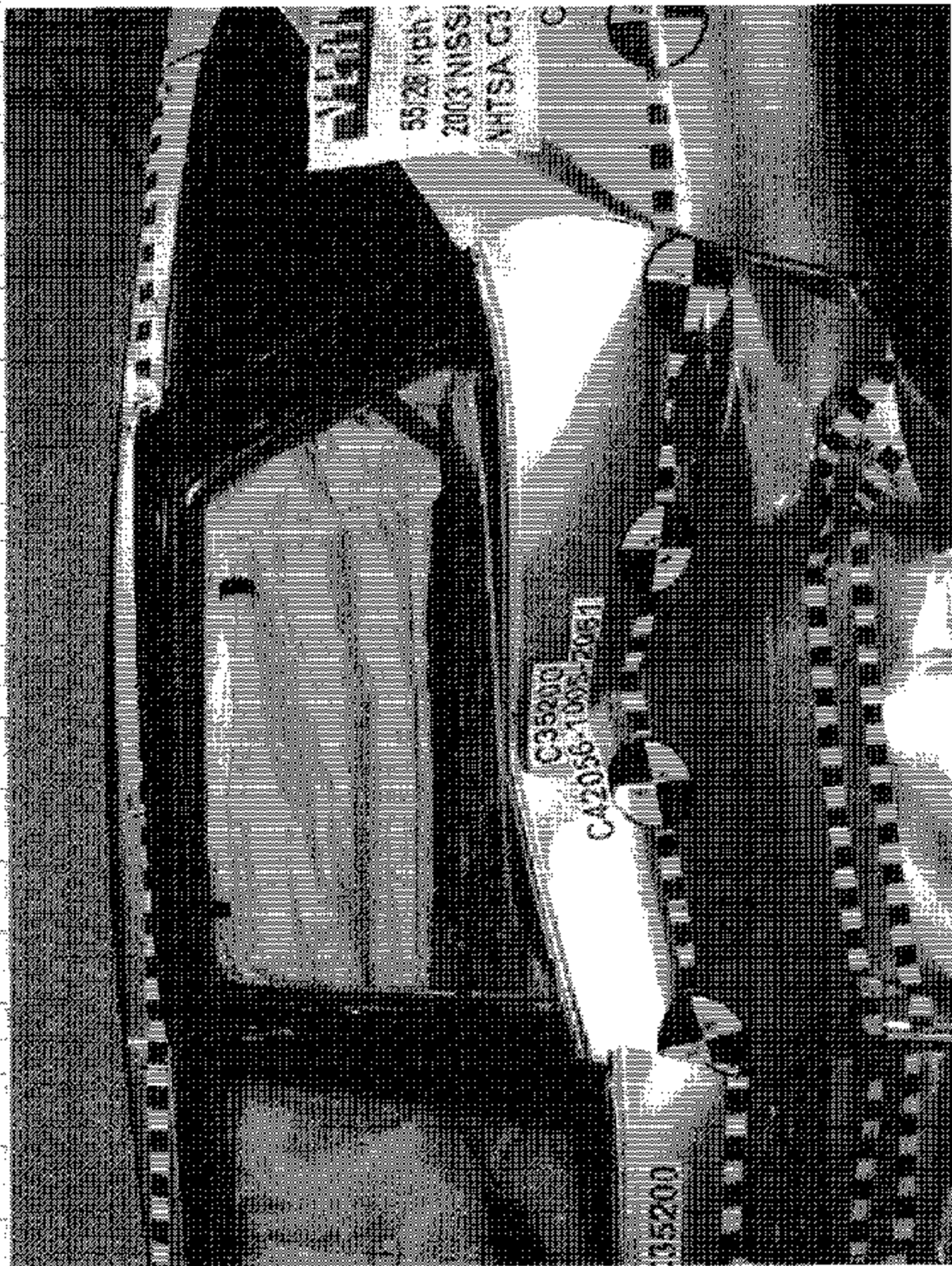


Figure A-12 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID HB

C35200

Figure A.33 PRE-TEST INTERIOR OF FRONT DOOR



Figure A-34 POST TEST INTERIOR OF FRONT DOOR SHOWING SID HS IMPACT LOCATIONS

035200

Figure A-35 PRE-TEST INTERIOR OF REAR DOOR



Figure A-16 POST-TEST INTERIOR OF REAR DOOR SHOWING SID H3 IMPACT LOCATIONS



Figure A-37 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

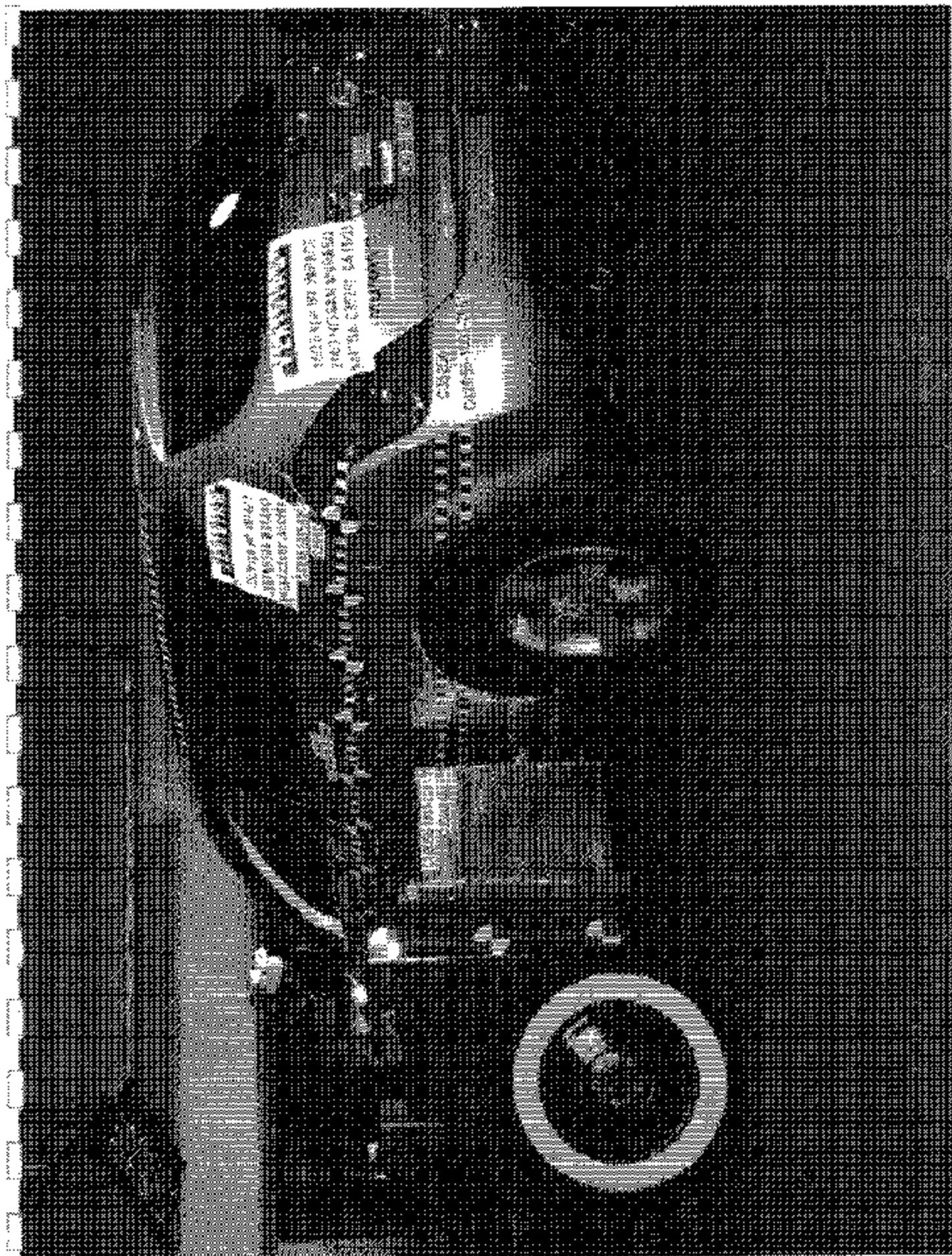


Figure A-18 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION



Figure A-39 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET



Figure A-40 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL



Figure A-41 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL

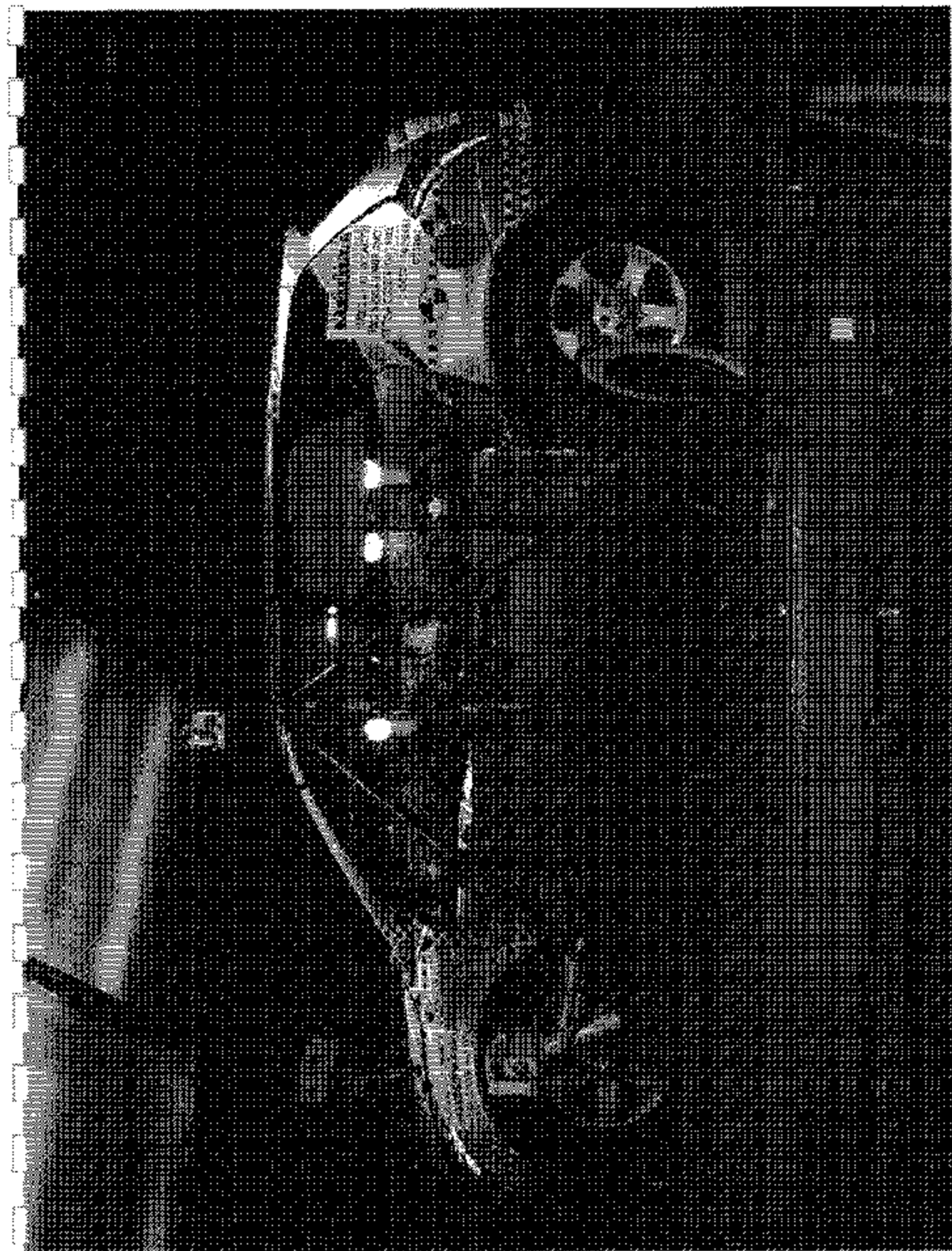


Figure A-42 IMPACT PHOTO

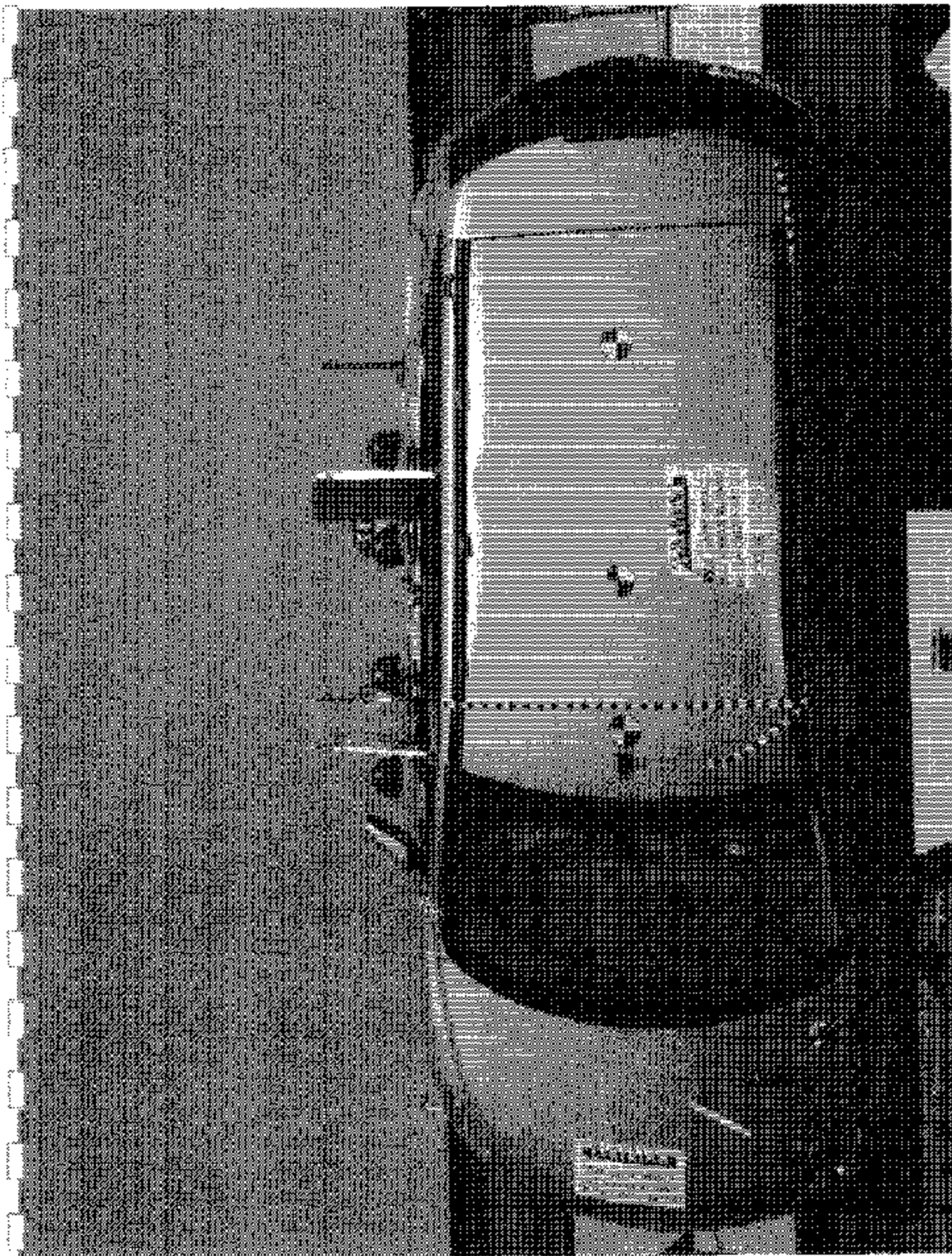


Figure A-43 ROLLOVER 90 DEGREES

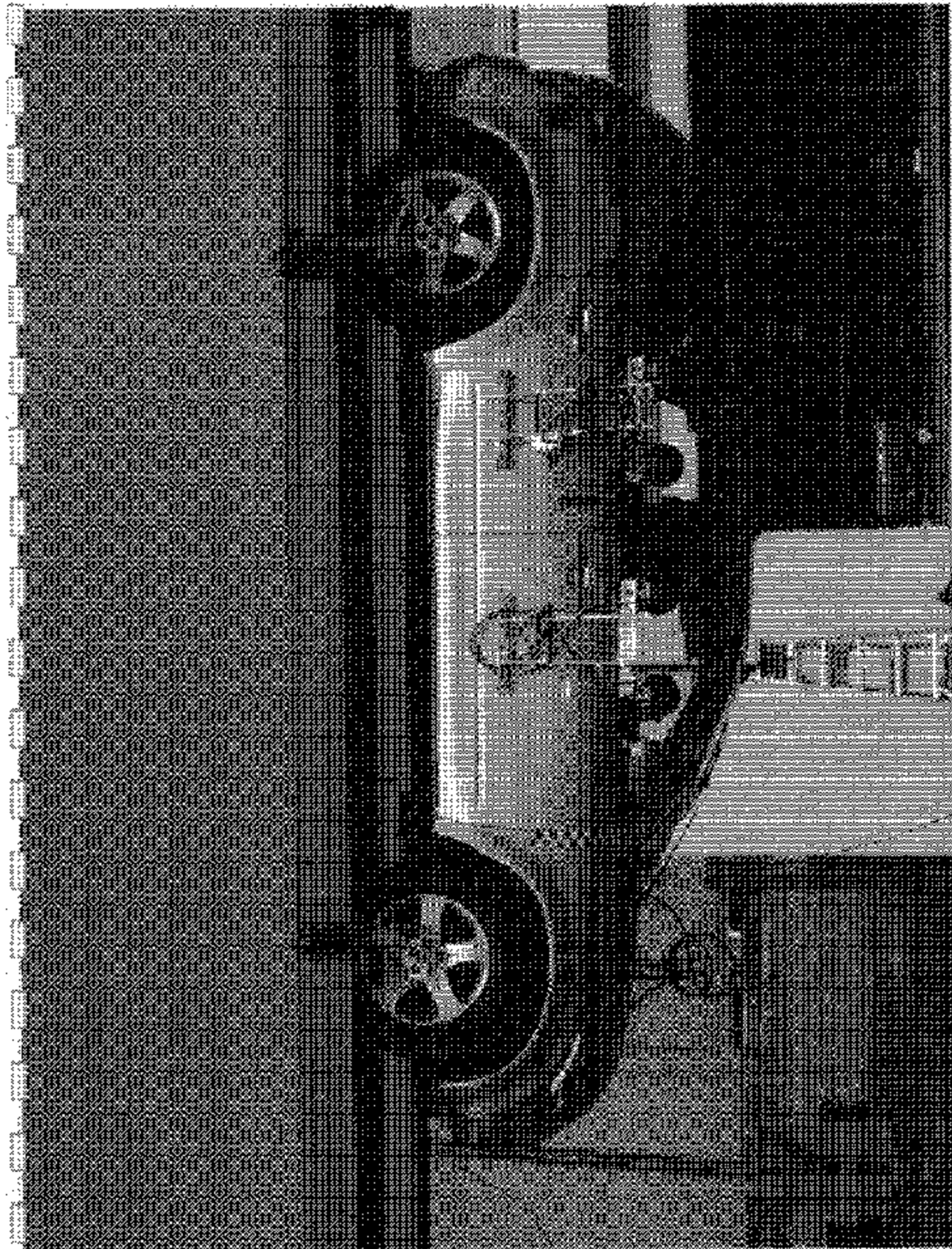


Figure A-44 ROLLOVER 180 DEGREES

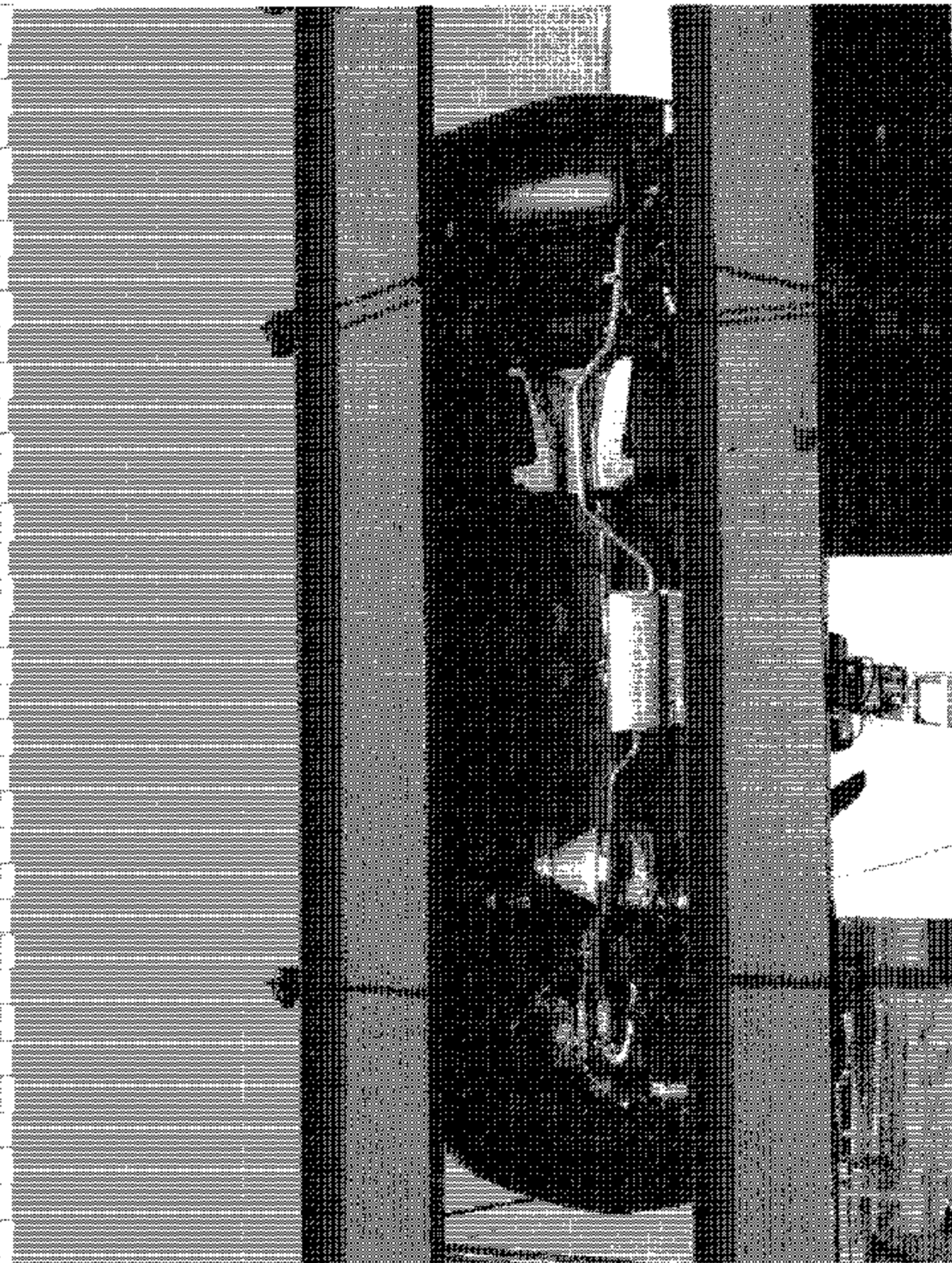


Figure A-45 ROI LOVER 270 DEGREES

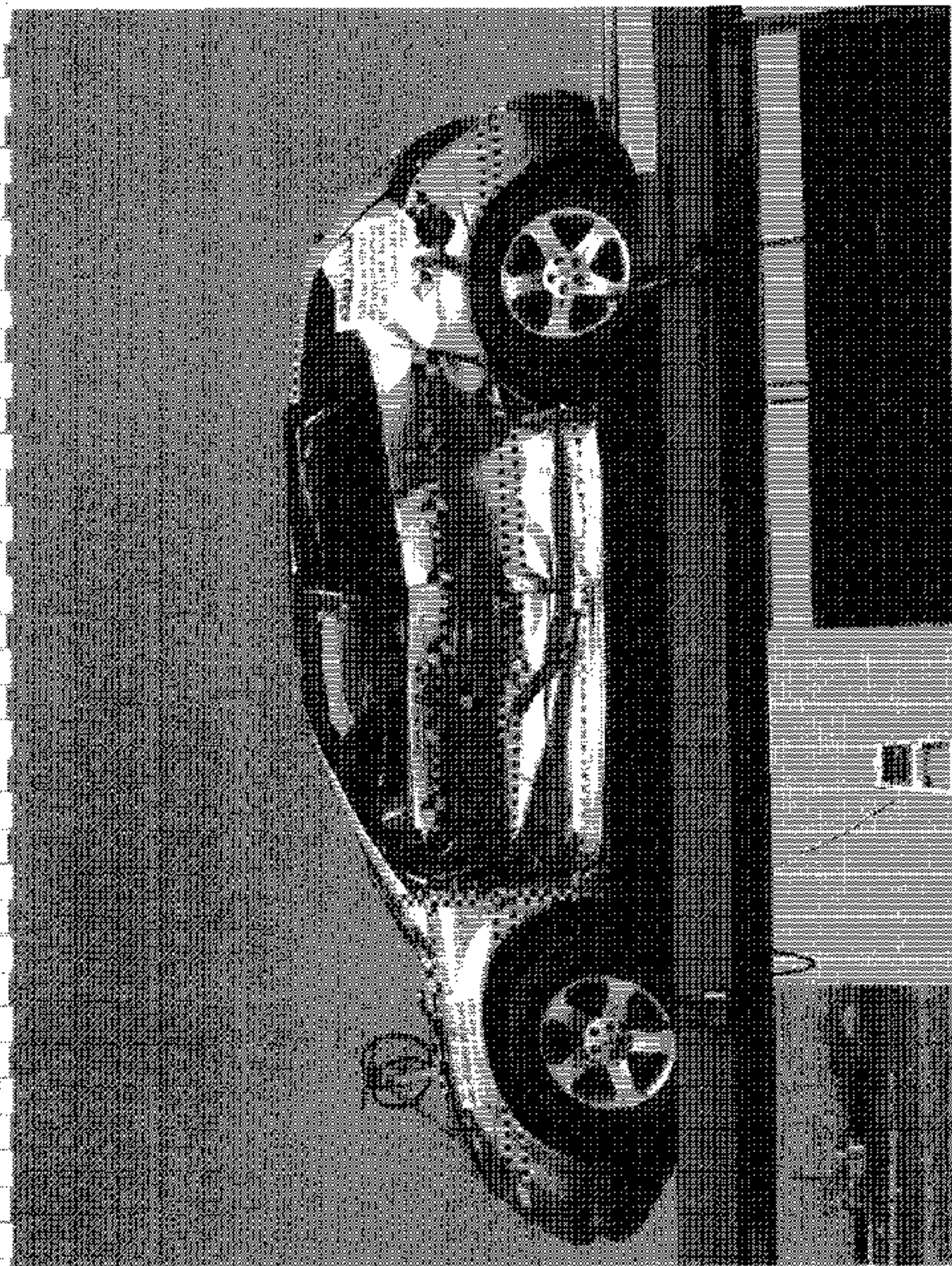


Figure A-46 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID HYBRID III RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION, FORCE AND MOMENT DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD 9 ARRAY X ARM (Y) ACCELERATION VS TIME	B- 7
2	DRIVER HEAD 9 ARRAY X ARM (Y) VELOCITY VS TIME	B- 8
3	DRIVER HEAD 9 ARRAY X ARM (Z) ACCELERATION VS TIME	B- 9
4	DRIVER HEAD 9 ARRAY X ARM (Z) VELOCITY VS TIME	B- 10
5	DRIVER HEAD 9 ARRAY Y ARM (X) ACCELERATION VS TIME	B- 11
6	DRIVER HEAD 9 ARRAY Y ARM (X) VELOCITY VS TIME	B- 12
7	DRIVER HEAD 9 ARRAY Y ARM (Z) ACCELERATION VS TIME	B- 13
8	DRIVER HEAD 9 ARRAY Y ARM (Z) VELOCITY VS TIME	B- 14
9	DRIVER HEAD 9 ARRAY Z ARM (X) ACCELERATION VS TIME	B- 15
10	DRIVER HEAD 9 ARRAY Z ARM (X) VELOCITY VS TIME	B- 16
11	DRIVER HEAD 9 ARRAY Z ARM (Y) ACCELERATION VS TIME	B- 17
12	DRIVER HEAD 9 ARRAY Z ARM (Y) VELOCITY VS TIME	B- 18
13	DRIVER HEAD (X) ACCELERATION VS TIME	B- 19
14	DRIVER HEAD (X) VELOCITY VS TIME	B- 20
15	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 21
16	DRIVER HEAD (Y) VELOCITY VS TIME	B- 22
17	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 23
18	DRIVER HEAD (Z) VELOCITY VS TIME	B- 24
19	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 25
20	DRIVER UPPER NECK (X) FORCE VS TIME	B- 26
21	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 27
22	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 28
23	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 29
24	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 30
25	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 31
26	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 32
27	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 33
28	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 34
29	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 35
30	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 36
31	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 37
32	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 38
33	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 39
34	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 40
35	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 41

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION, FORCE AND MOMENT DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
36	PASSENGER HEAD 9 ARRAY X ARM (Y) ACCELERATION VS TIME	B- 42
37	PASSENGER HEAD 9 ARRAY X ARM (Y) VELOCITY VS TIME	B- 43
38	PASSENGER HEAD 9 ARRAY X ARM (Z) ACCELERATION VS TIME	B- 44
39	PASSENGER HEAD 9 ARRAY X ARM (Z) VELOCITY VS TIME	B- 45
40	PASSENGER HEAD 9 ARRAY Y ARM (X) ACCELERATION VS TIME	B- 46
41	PASSENGER HEAD 9 ARRAY Y ARM (X) VELOCITY VS TIME	B- 47
42	PASSENGER HEAD 9 ARRAY Y ARM (Z) ACCELERATION VS TIME	B- 48
43	PASSENGER HEAD 9 ARRAY Y ARM (Z) VELOCITY VS TIME	B- 49
44	PASSENGER HEAD 9 ARRAY Z ARM (X) ACCELERATION VS TIME	B- 50
45	PASSENGER HEAD 9 ARRAY Z ARM (X) VELOCITY VS TIME	B- 51
46	PASSENGER HEAD 9 ARRAY Z ARM (Y) ACCELERATION VS TIME	B- 52
47	PASSENGER HEAD 9 ARRAY Z ARM (Y) VELOCITY VS TIME	B- 53
48	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 54
49	PASSENGER HEAD (X) VELOCITY VS TIME	B- 55
50	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 56
51	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 57
52	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 58
53	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 59
54	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 60
55	DRIVER UPPER NECK (X) FORCE VS TIME	B- 61
56	DRIVER UPPER NECK (Y) FORCE VS TIME	B- 62
57	DRIVER UPPER NECK (Z) FORCE VS TIME	B- 63
58	DRIVER UPPER NECK RESULTANT FORCE VS TIME	B- 64
59	DRIVER UPPER NECK (X) MOMENT VS TIME	B- 65
60	DRIVER UPPER NECK (Y) MOMENT VS TIME	B- 66
61	DRIVER UPPER NECK (Z) MOMENT VS TIME	B- 67
62	DRIVER UPPER NECK RESULTANT MOMENT VS TIME	B- 68
63	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 69
64	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 70
65	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 71
66	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 72
67	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 73
68	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 74
69	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 75
70	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 76

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
71	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 77
72	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 78
73	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 79
74	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 80
75	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 81
76	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 82
77	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 83
78	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 84

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
79	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	R- 85
80	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 86
81	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 87
82	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 88
83	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 89
84	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 90
85	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 91
86	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 92
87	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 93
88	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 94
89	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 95
90	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 96
91	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 97
92	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 98
93	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 99
94	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 100
95	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 101
96	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 102
97	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 103
98	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 104
99	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 105
100	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 106
101	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 107
102	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 108
103	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 109
104	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 110
105	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 111
106	LOWER B-POST (Y) ACCELERATION VS TIME	B- 112
107	LOWER B-POST (Y) VELOCITY VS TIME	B- 113
108	UPPER B-POST (Y) ACCELERATION VS TIME	B- 114
109	UPPER B-POST (Y) VELOCITY VS TIME	B- 115
110	LOWER A-POST (Y) ACCELERATION VS TIME	B- 116
111	LOWER A-POST (Y) VELOCITY VS TIME	B- 117
112	UPPER A-POST (Y) ACCELERATION VS TIME	B- 118
113	UPPER A-POST (Y) VELOCITY VS TIME	B- 119
114	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 120
115	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 121
116	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 122
117	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 123

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
118	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 124
119	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 125
120	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 126
121	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 127
122	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 128
123	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 129
124	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 130

MDB INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
125	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 131
126	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 132
127	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 133
128	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 134
129	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 135
130	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 136
131	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 137
132	MDB REAR (X) ACCELERATION VS TIME	B- 138
133	MDB REAR (X) VELOCITY VS TIME	B- 139
134	MDB REAR (Y) ACCELERATION VS TIME	B- 140
135	MDB REAR (Y) VELOCITY VS TIME	B- 141

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
136	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 142
137	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 143
138	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 144
139	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 145
140	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 146
141	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 147
142	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 148
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144	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 150
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151	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 157

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

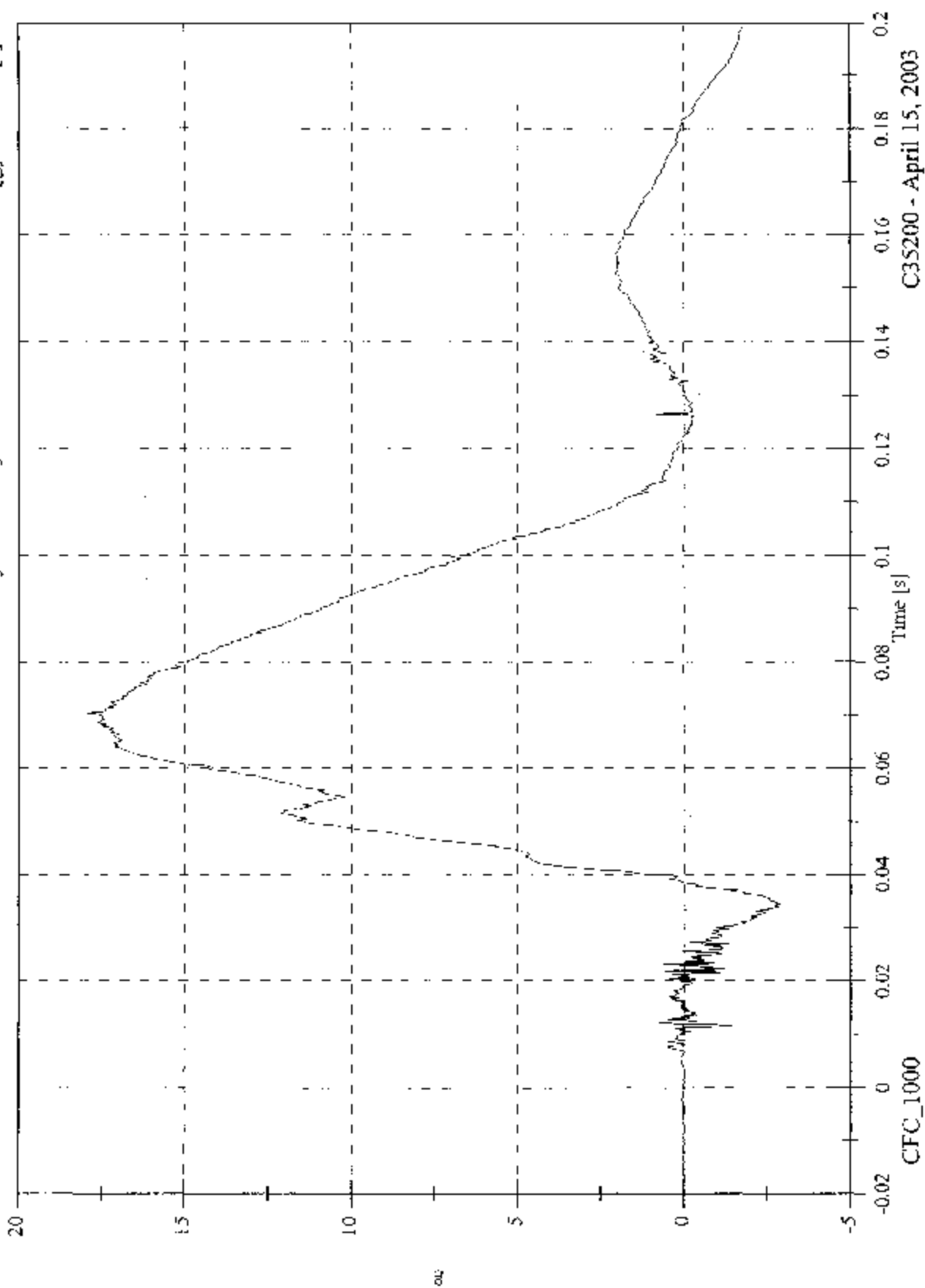
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
152	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 158
153	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 159
154	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 160
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156	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 162
157	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 163
158	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 164
159	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 165

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 18.0 [g] at 0.070 [s]

Min: -2.9 [g] at 0.034 [s]

V2P1 Head 9 Array X Arm Ay



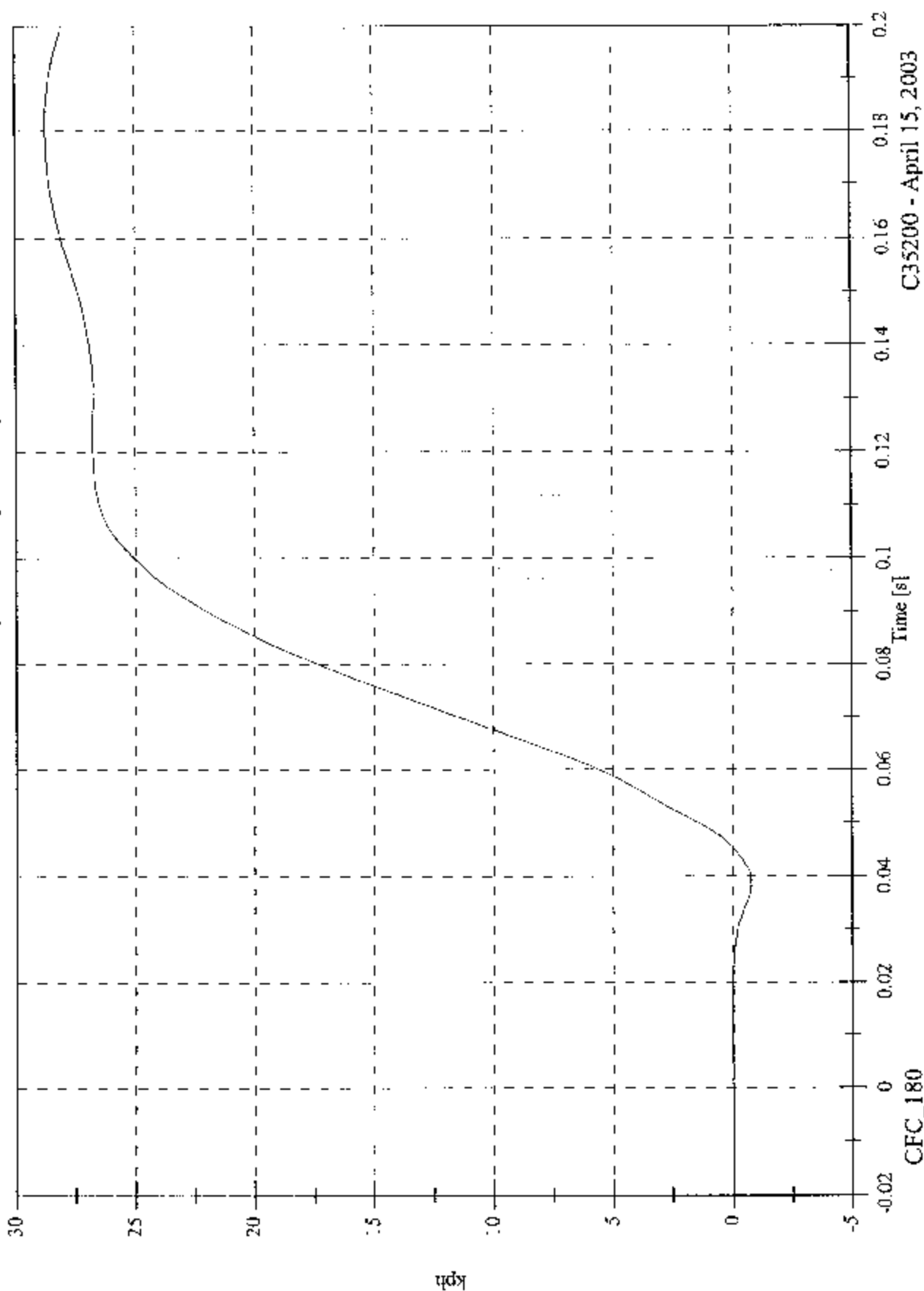
C3S200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array X Arm Ay Velocity

Max: 28.7 [kph] at 0.182 [s]

Min: -0.8 [kph] at 0.039 [s]



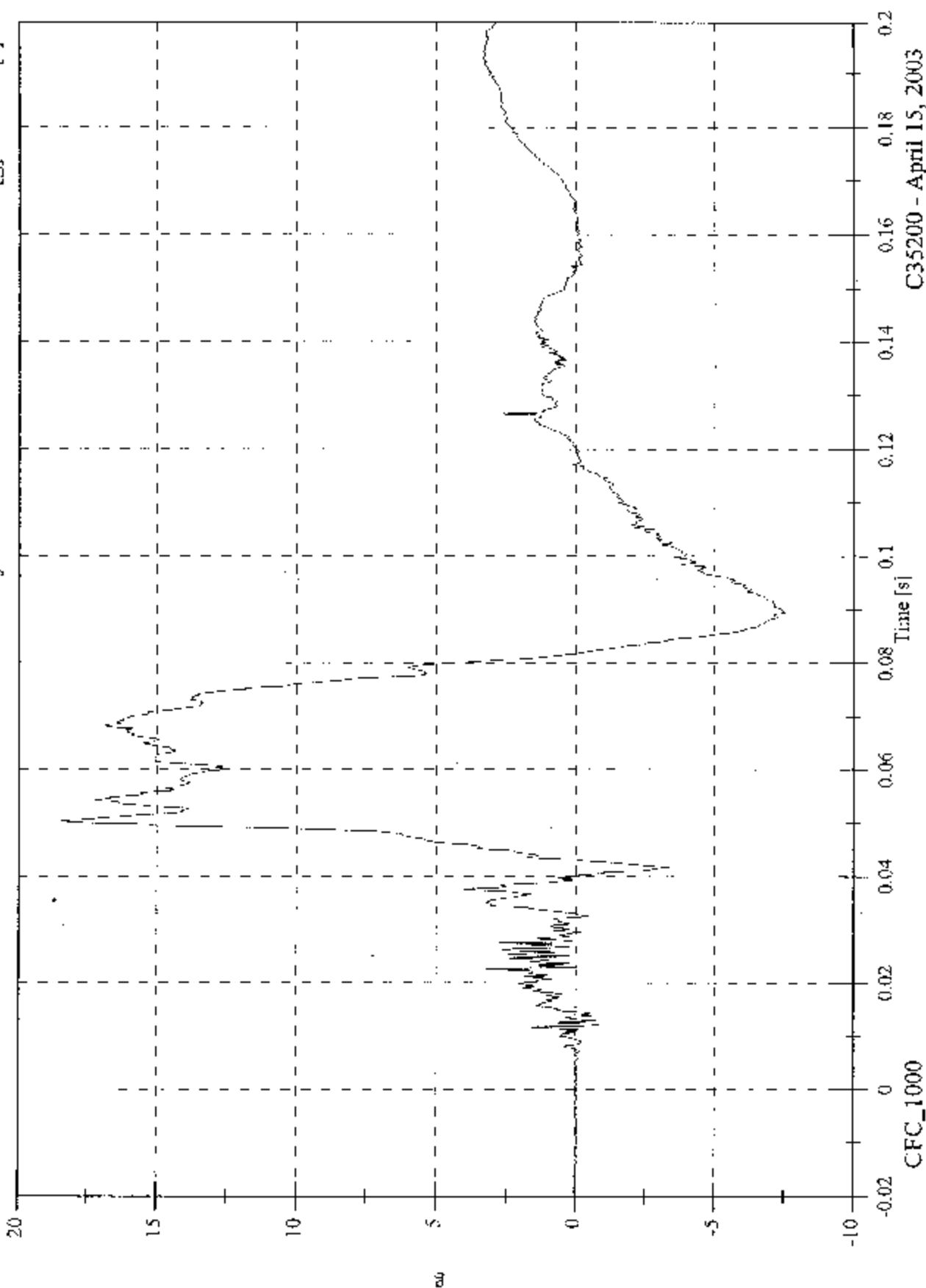
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array X Arm Az

Max: 18.5 [g] at 0.050 [s]

Min: -7.6 [g] at 0.090 [s]

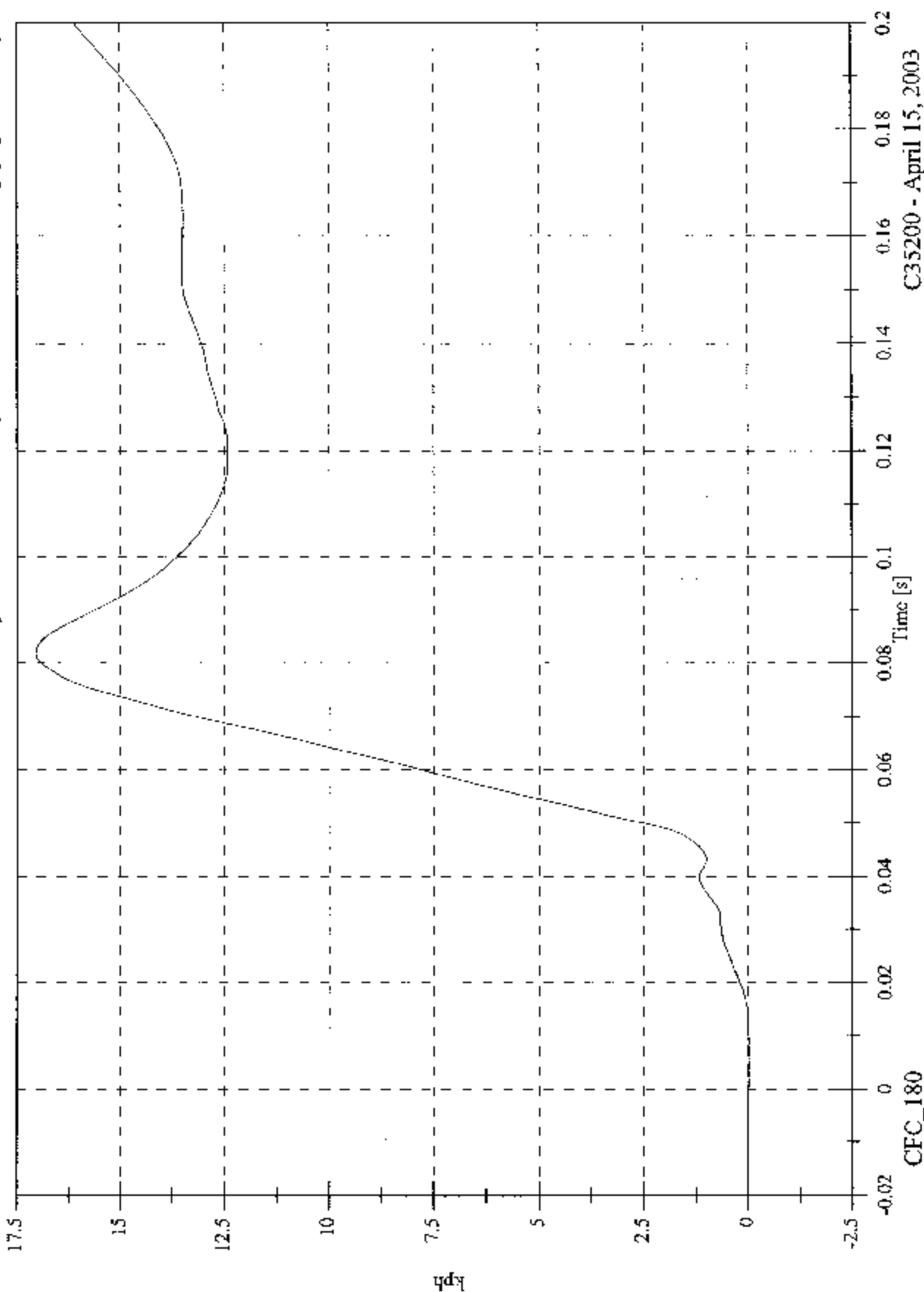


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 17.0 [kph] at 0.082 [s]
 Min: -0.0 [kph] at 0.007 [s]

V2P1 Head 9 Array X Arm Az Velocity

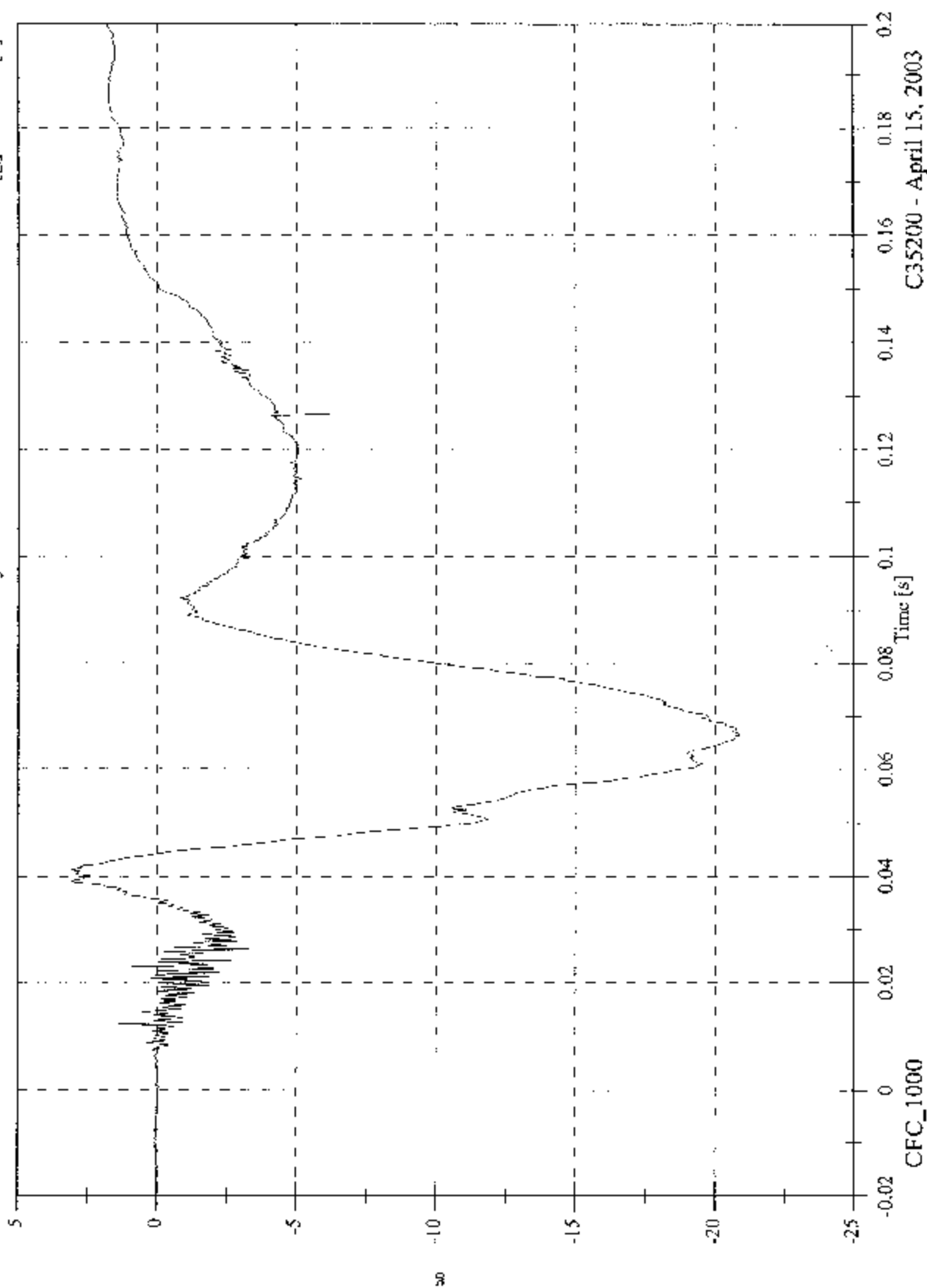


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Y Arm Ax

Max: 3.1 [g] at 0.039 [s]
Min: -20.9 [g] at 0.067 [s]



CFC_1000

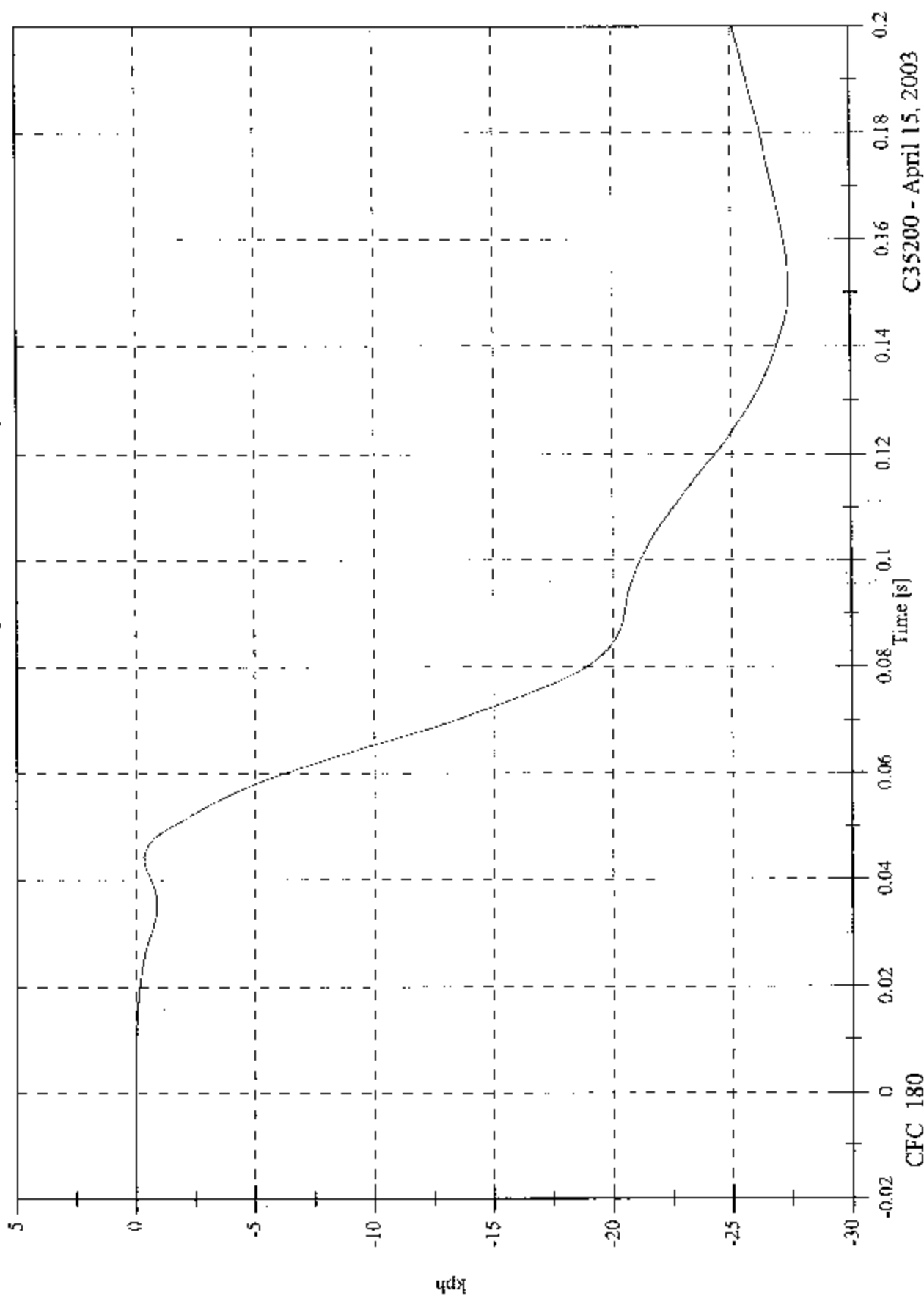
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Y Arm Ax Velocity

Max: 0.0 [kph] at -0.003 [s]

Min: -27.4 [kph] at 0.151 [s]



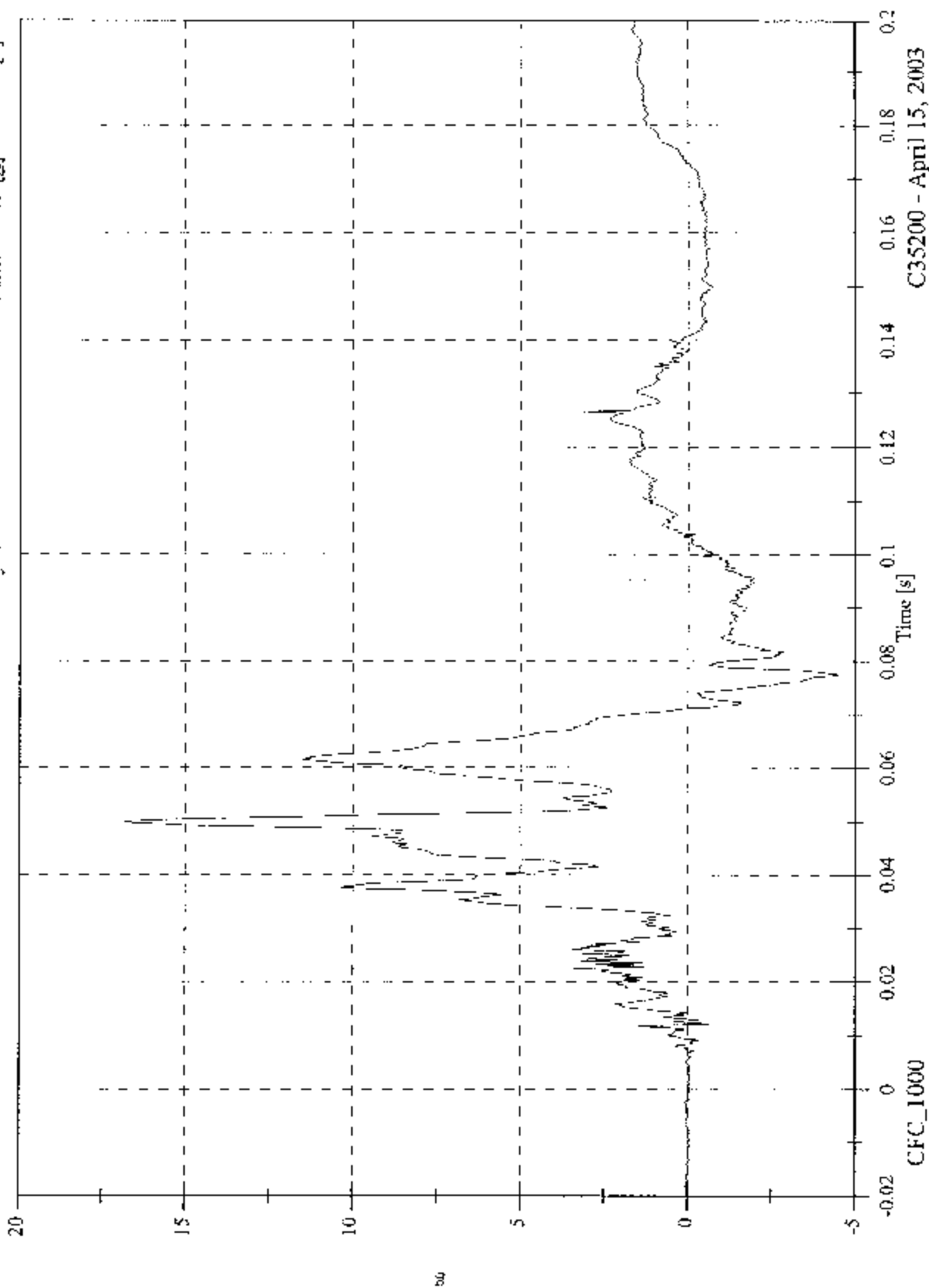
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Y Arm Az

Max: 16.8 [g] at 0.050 [s]

Min: -4.5 [g] at 0.077 [s]



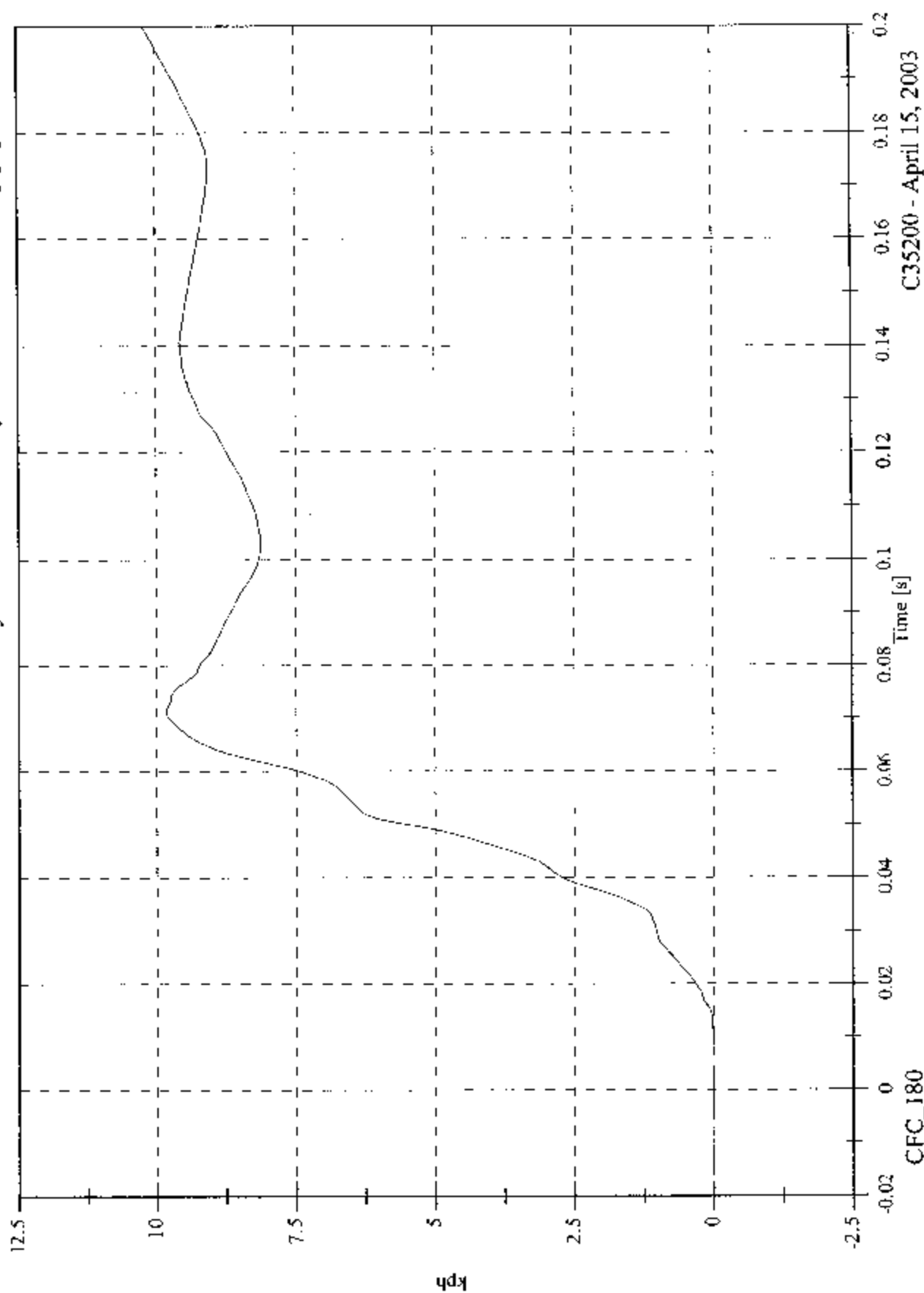
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 10.2 [kph] at 0.200 [s]

V2P1 Head 9 Array Y Arm Az Velocity

Min: -0.0 [kph] at 0.007 [s]



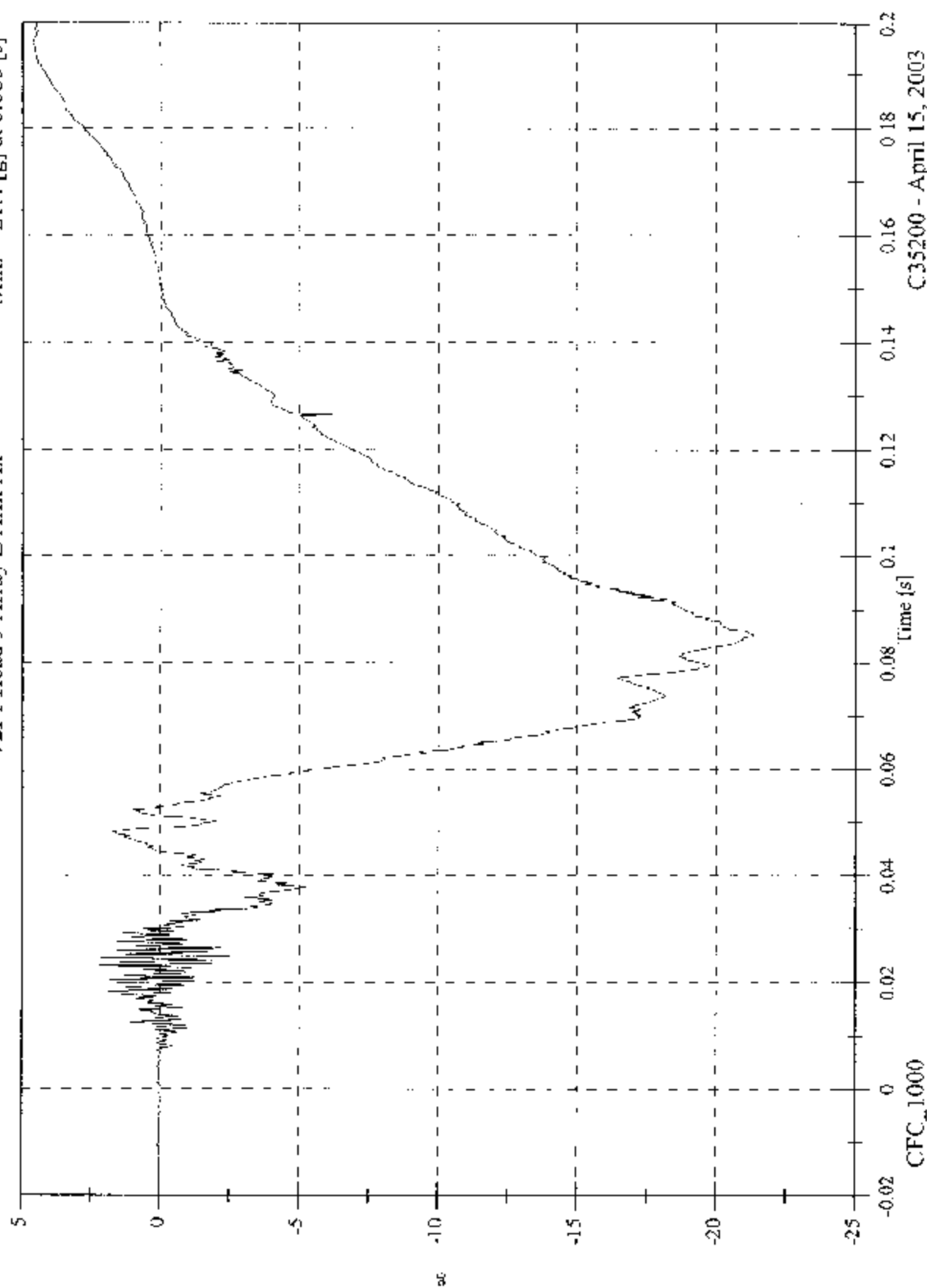
CFC_I80

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head 9 Array Z Arm Ax

Max: 4.6 [g] at 0.197 [s]
Min: -21.4 [g] at 0.085 [s]

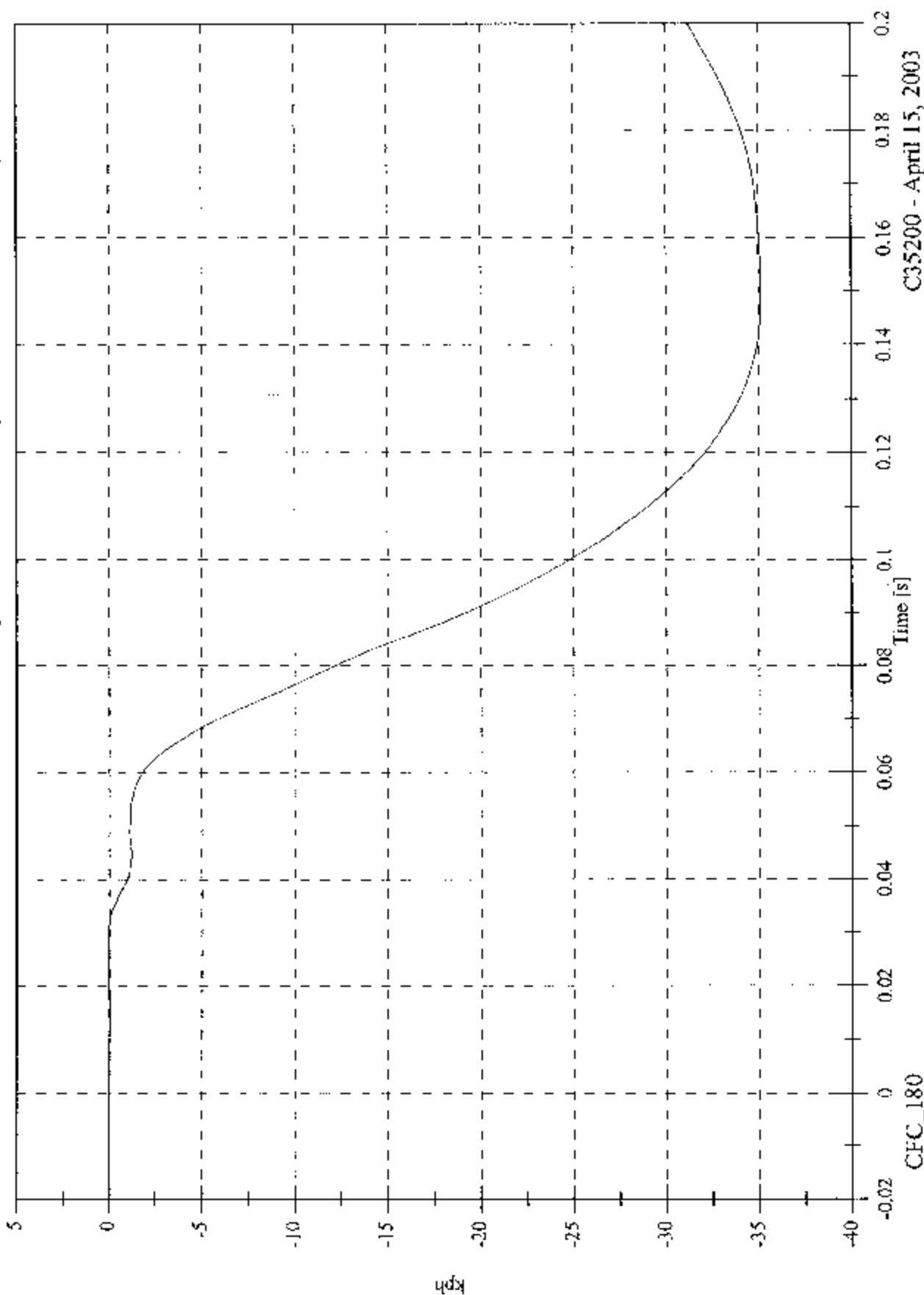


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 0.0 [kph] at 0.021 [s]
 Min: -35.1 [kph] at 0.151 [s]

V2P1 Head 9 Array Z Arm Ax Velocity



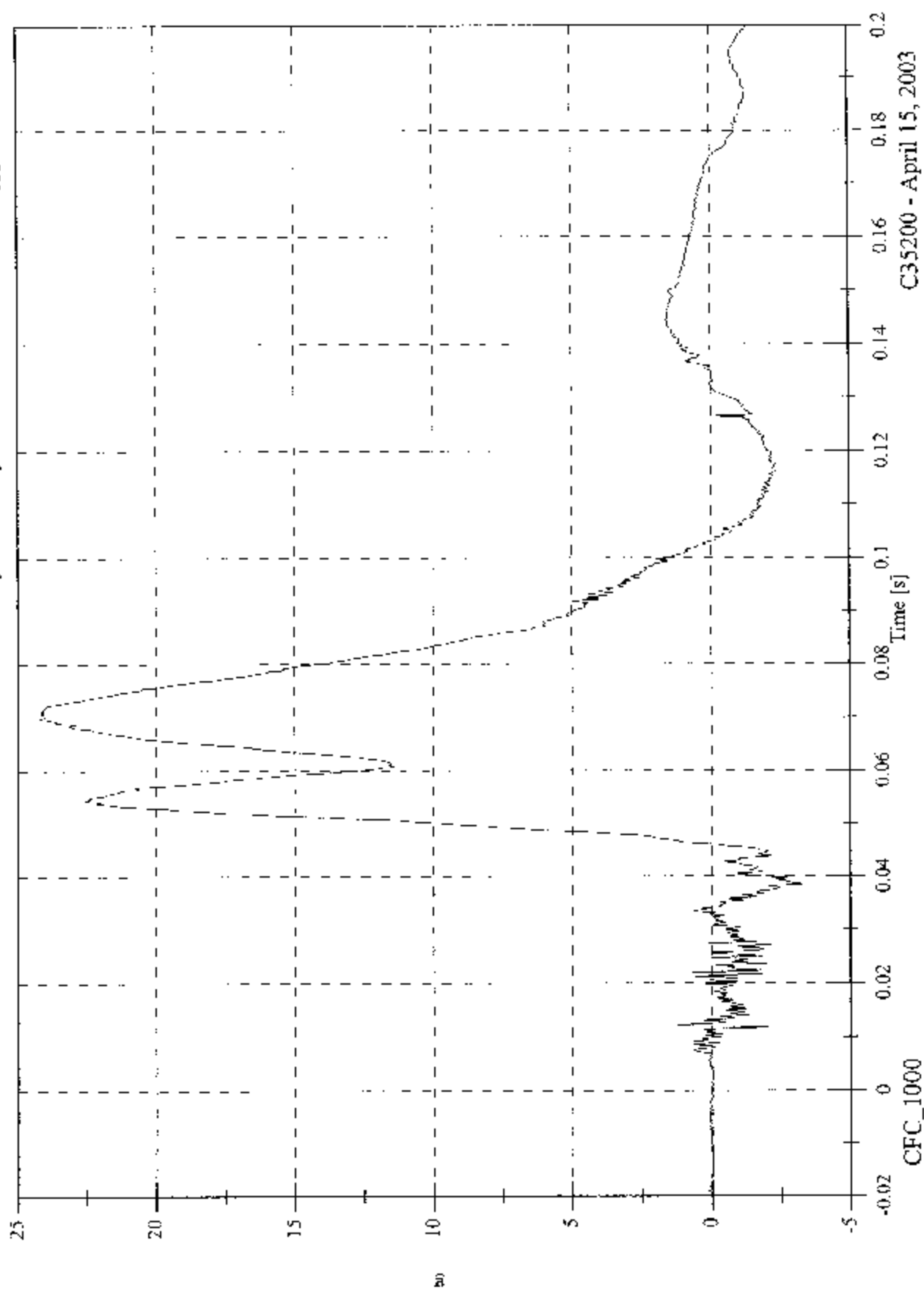
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 24.2 [g] at 0.071 [s]

Min: -3.2 [g] at 0.039 [s]

V2P1 Head 9 Array Z Arm Ay



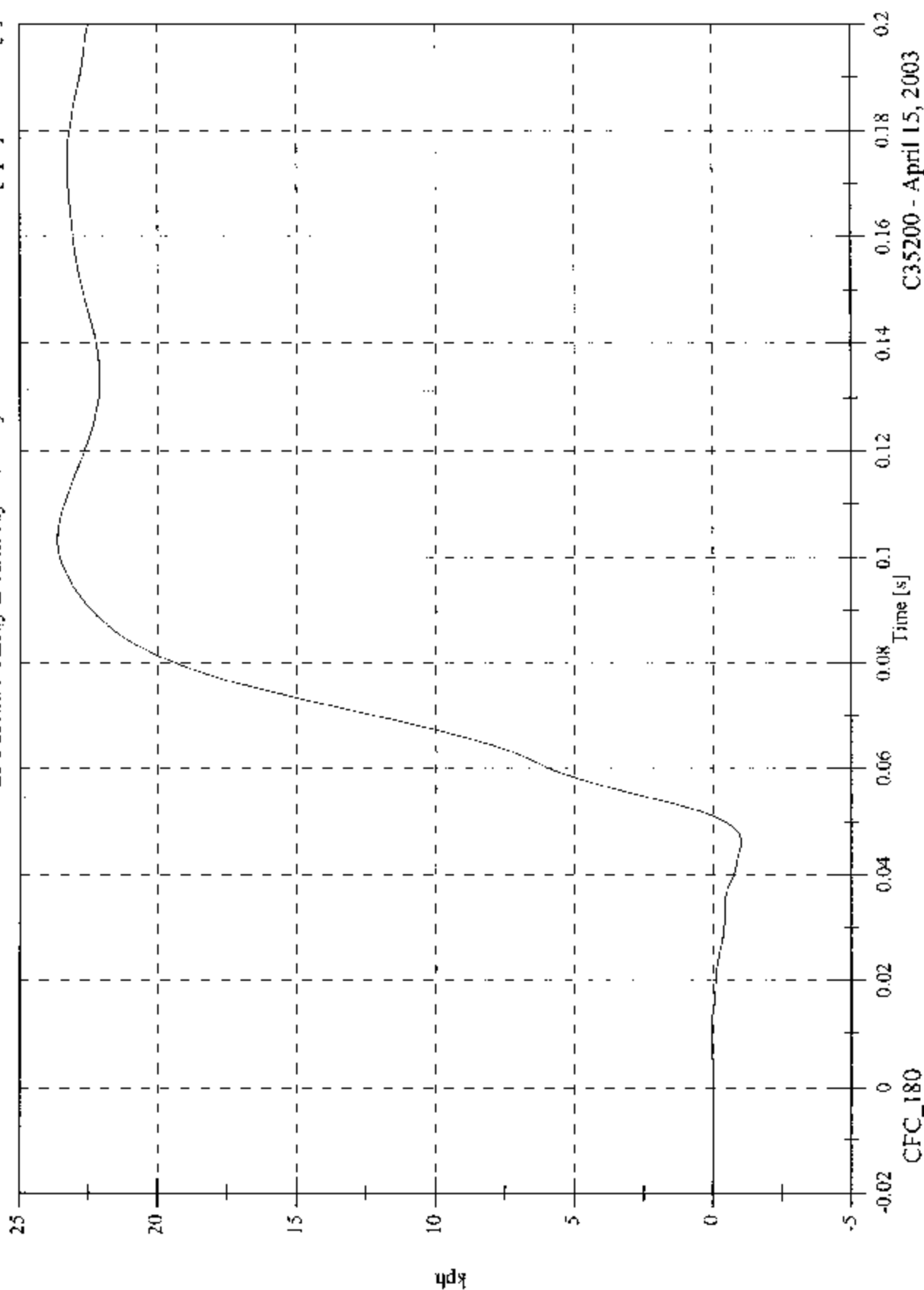
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 23.6 [kph] at 0.103 [s]

Min: -1.0 [kph] at 0.046 [s]

V2P1 Head 9 Array Z Arm Ay Velocity

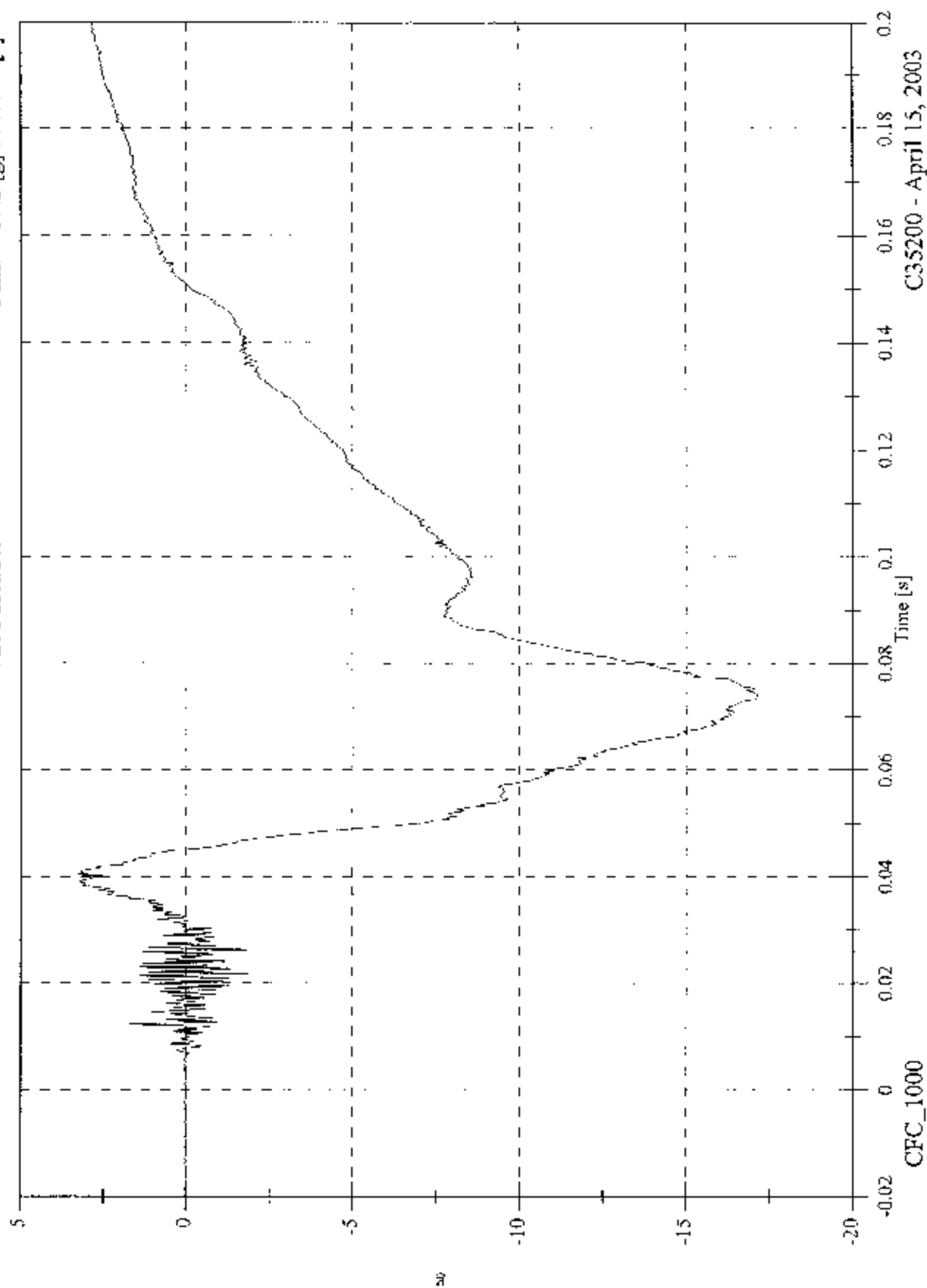


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2PI Head x

Max: 3.3 [g] at 0.040 [s]
Min: -17.2 [g] at 0.074 [s]

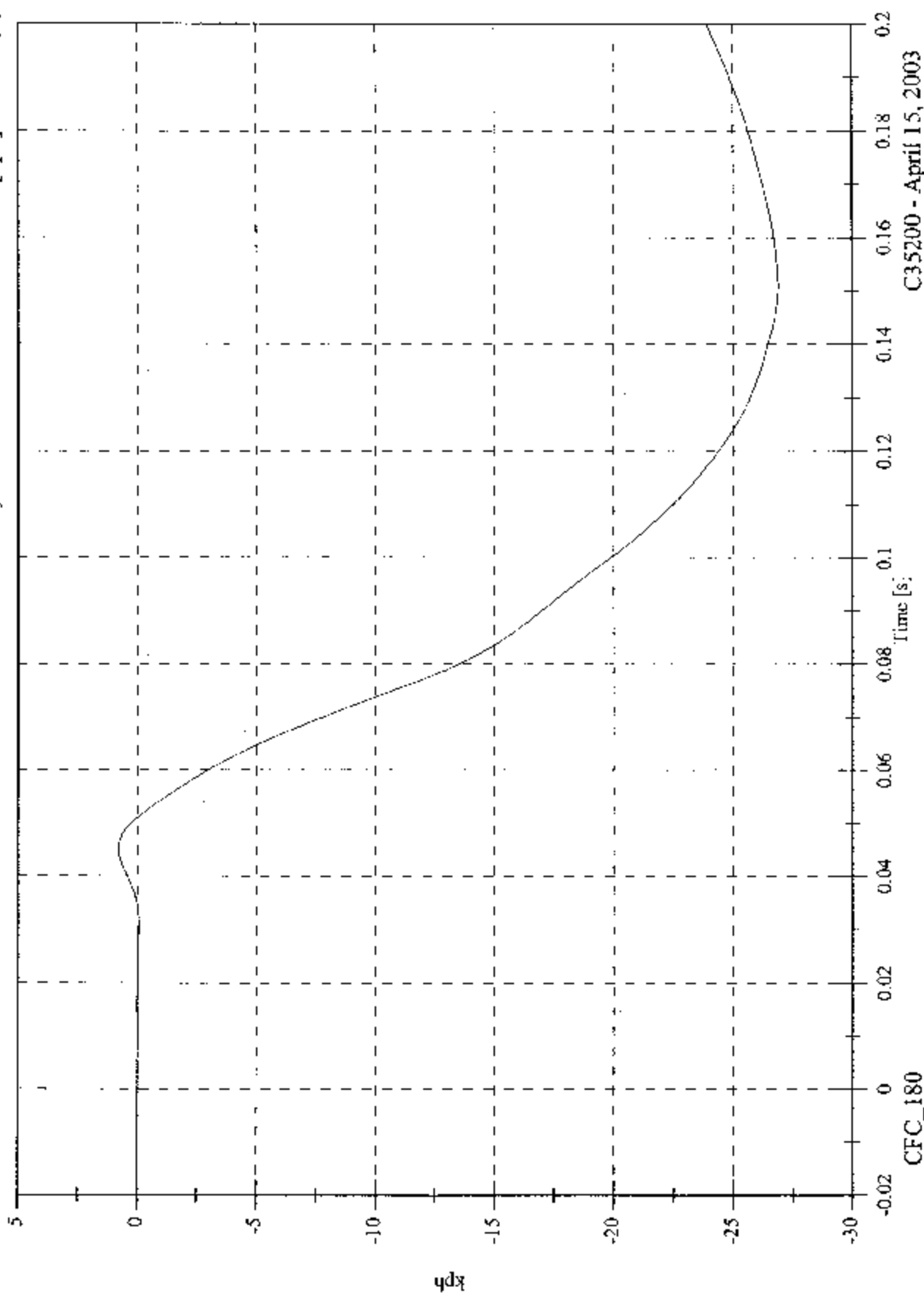


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 0.8 [kph] at 0.045 [s]
Min: -26.9 [kph] at 0.151 [s]

V2PI Head x Velocity

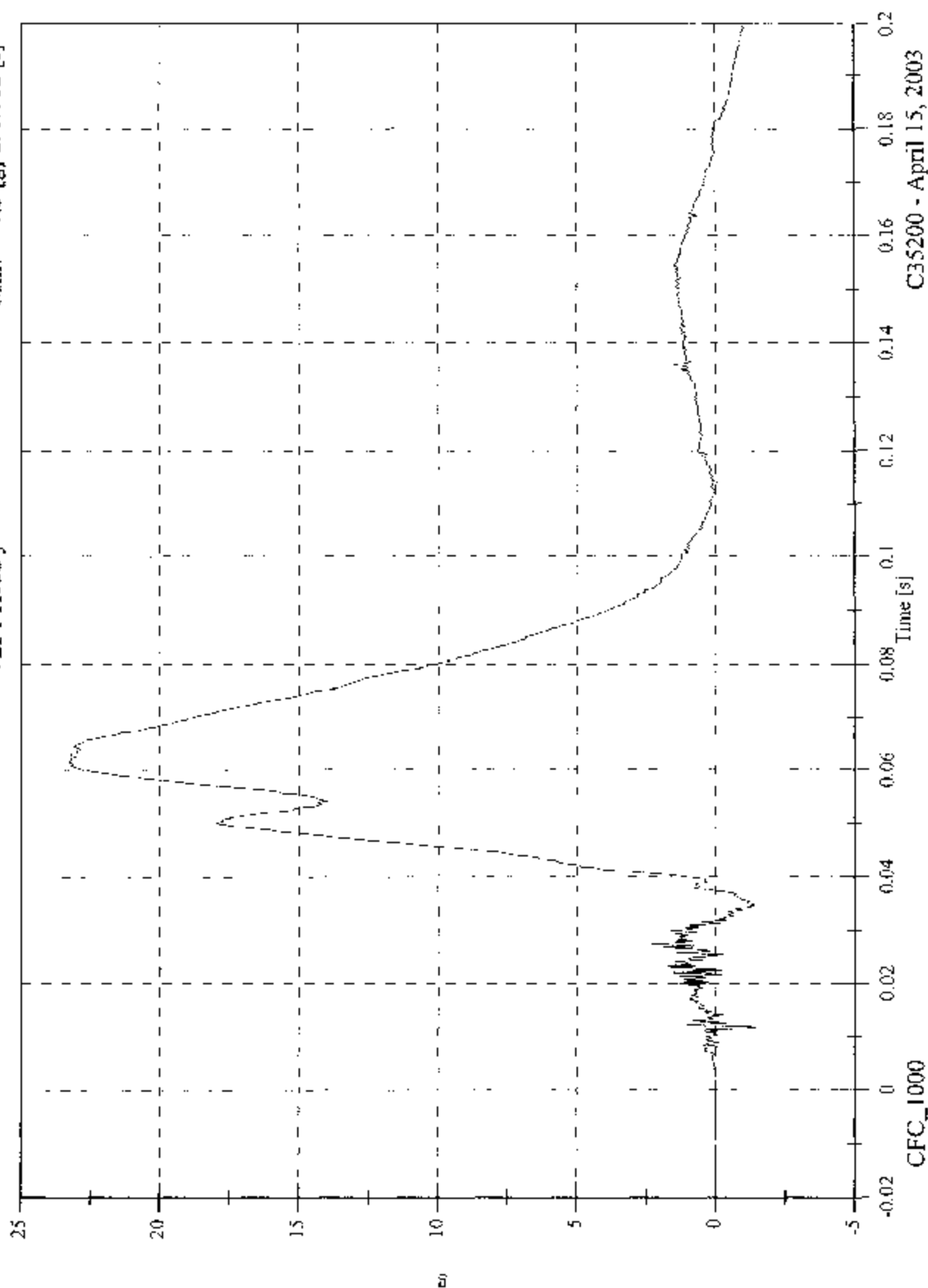


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Head y

Max: 23.3 [g] at 0.062 [s]
Min: -1.5 [g] at 0.012 [s]

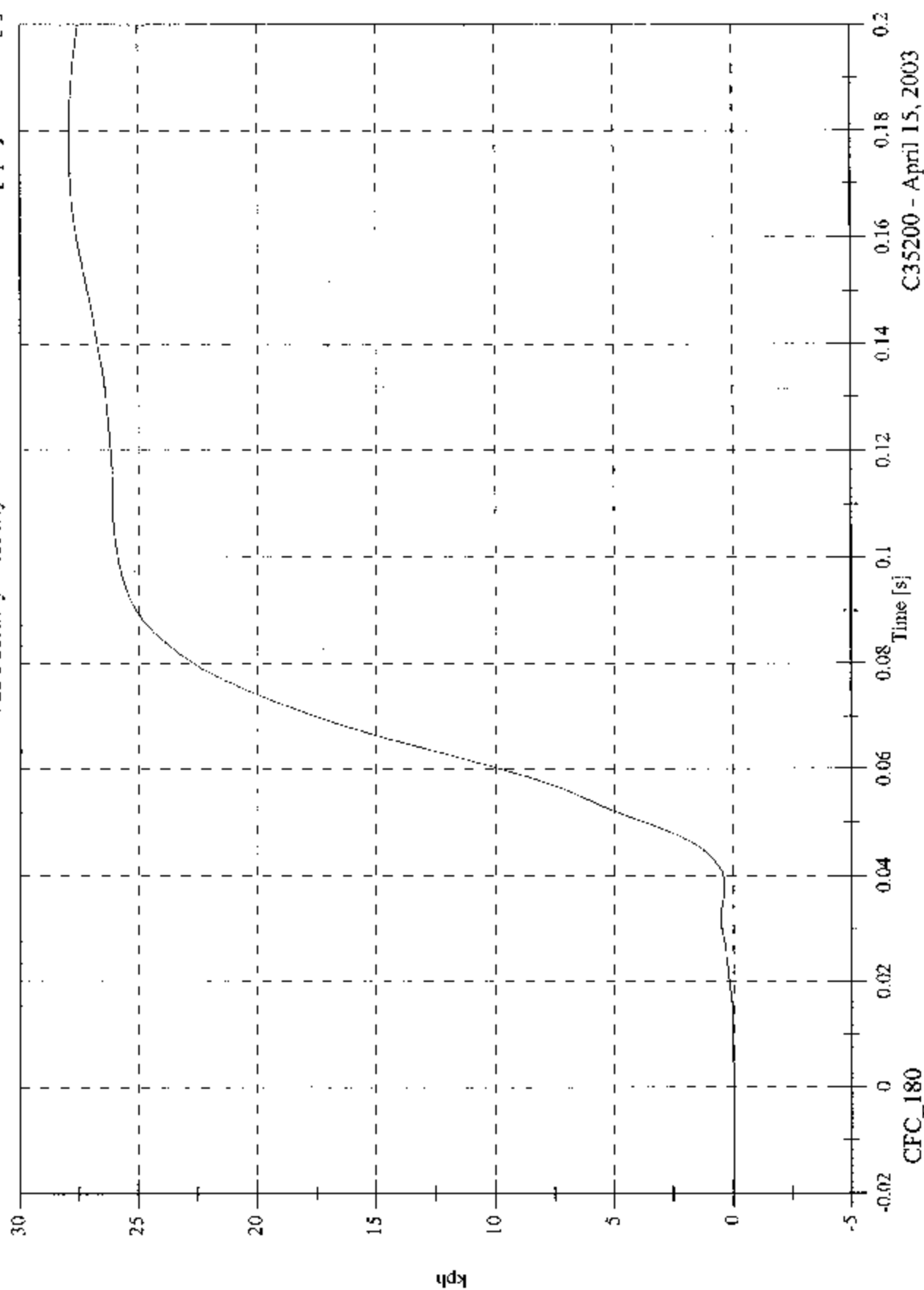


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 27.9 [kph] at 0.181 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P1 Head y Velocity



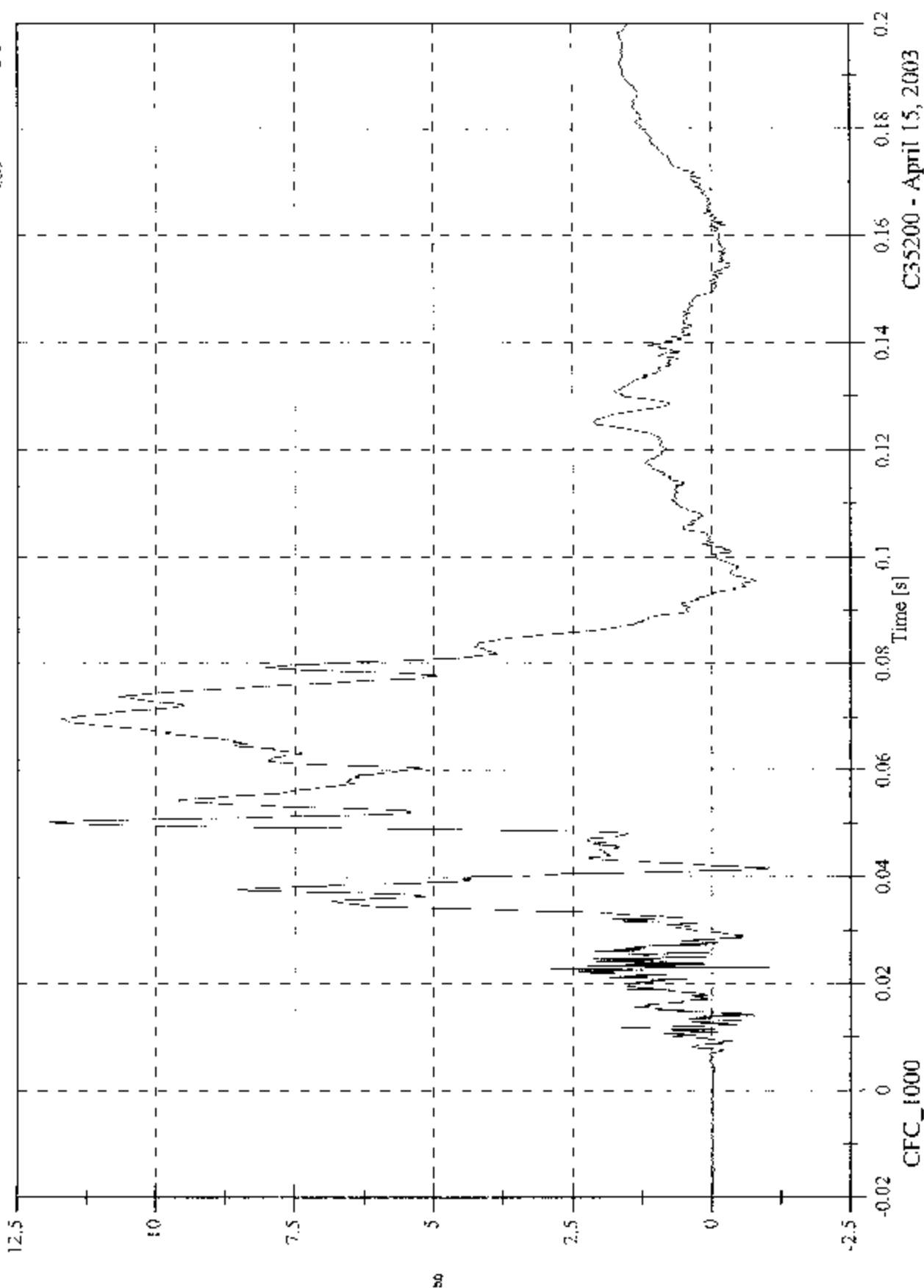
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 11.9 [g] at 0.050 [s]
Min: -1.4 [g] at 0.023 [s]

V2P1 Ilead z



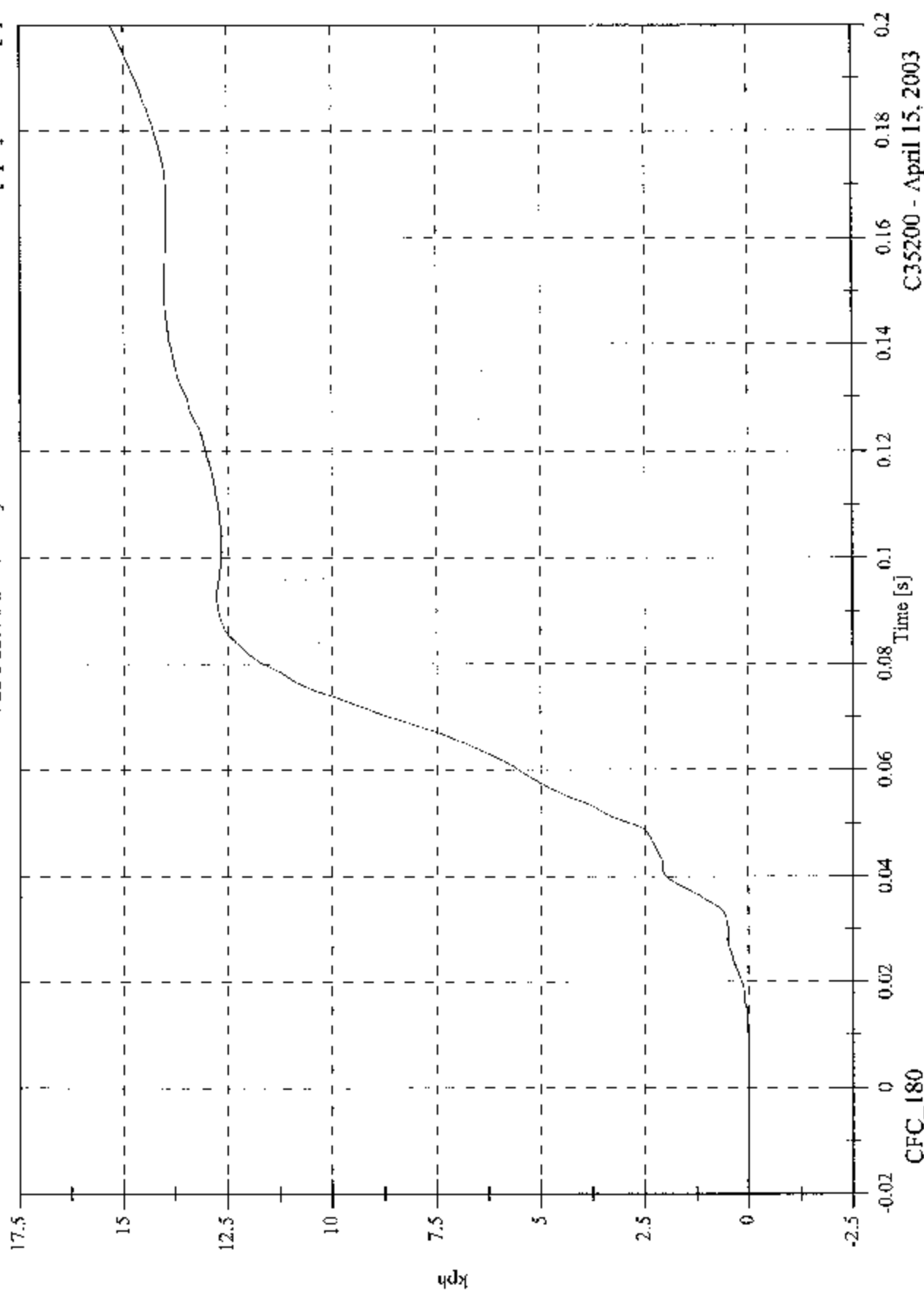
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 15.3 [kph] at 0.200 [s]

Min: -0.0 [kph] at 0.005 [s]

V2P1 Head z Velocity



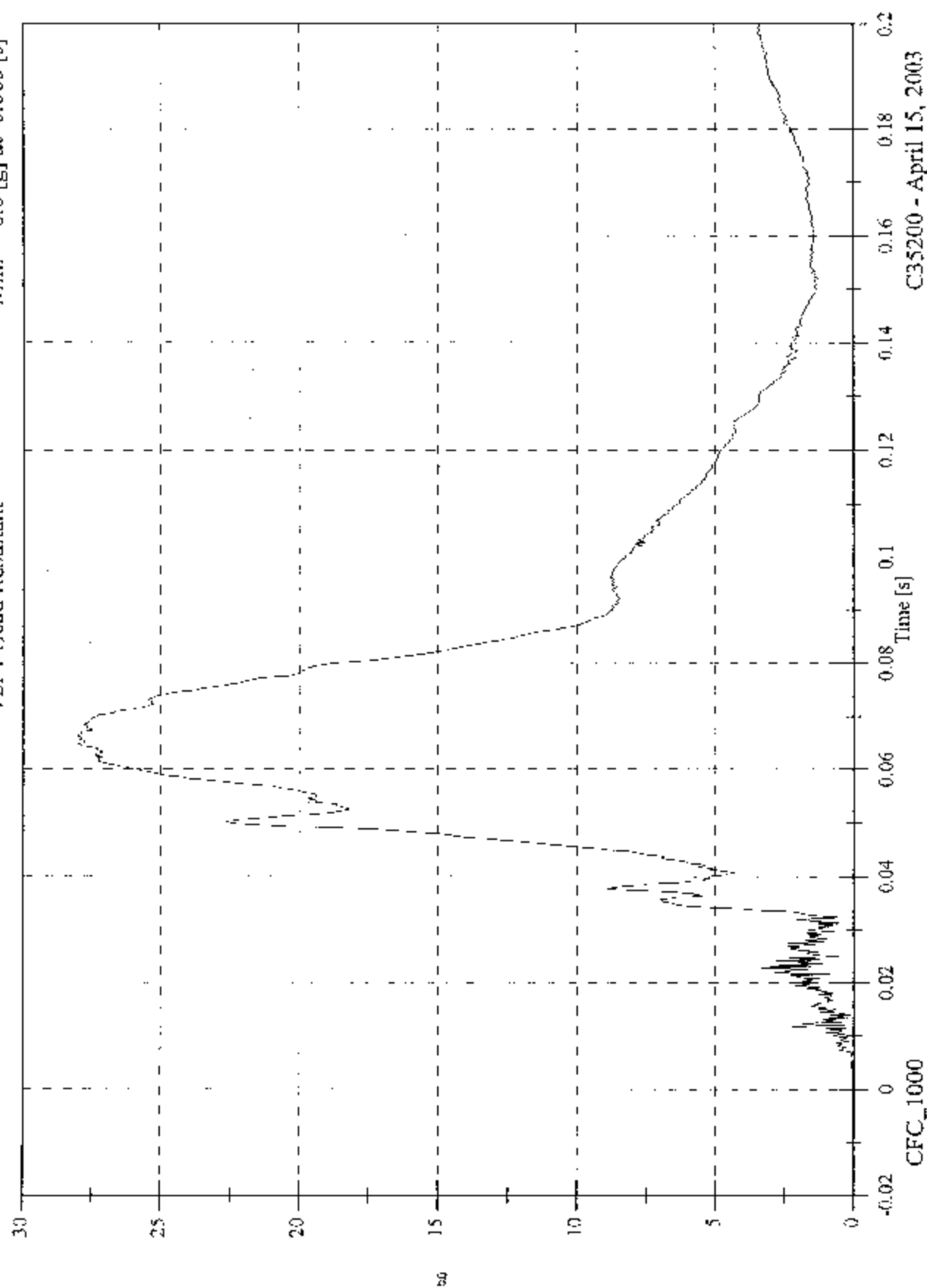
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 28.0 [g] at 0.066 [s]
Min: 0.0 [g] at -0.003 [s]

V2PI Head Resultant

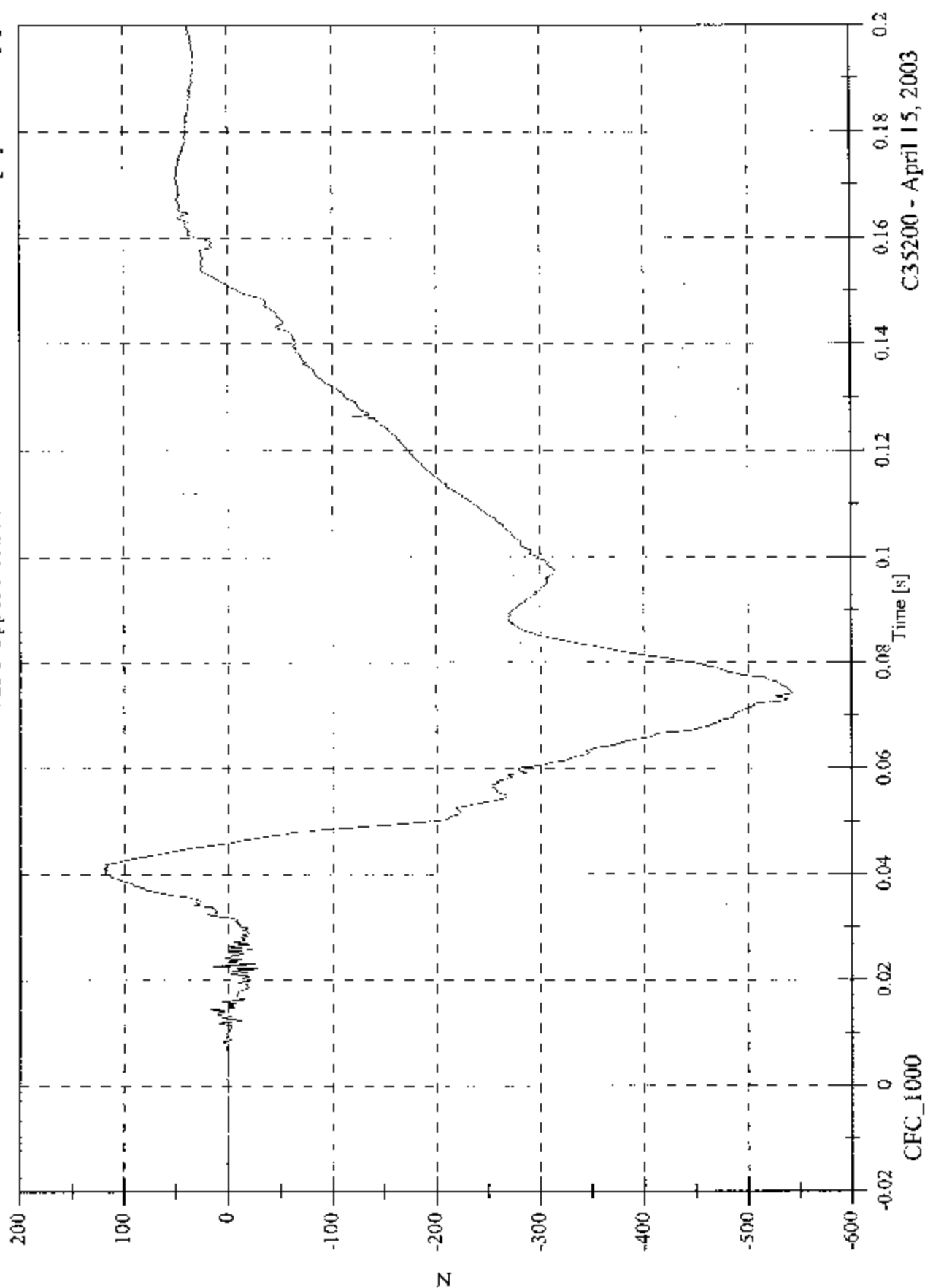


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Neck Fx

Max: 119.6 [N] at 0.041 [s]
Min: -542.3 [N] at 0.074 [s]

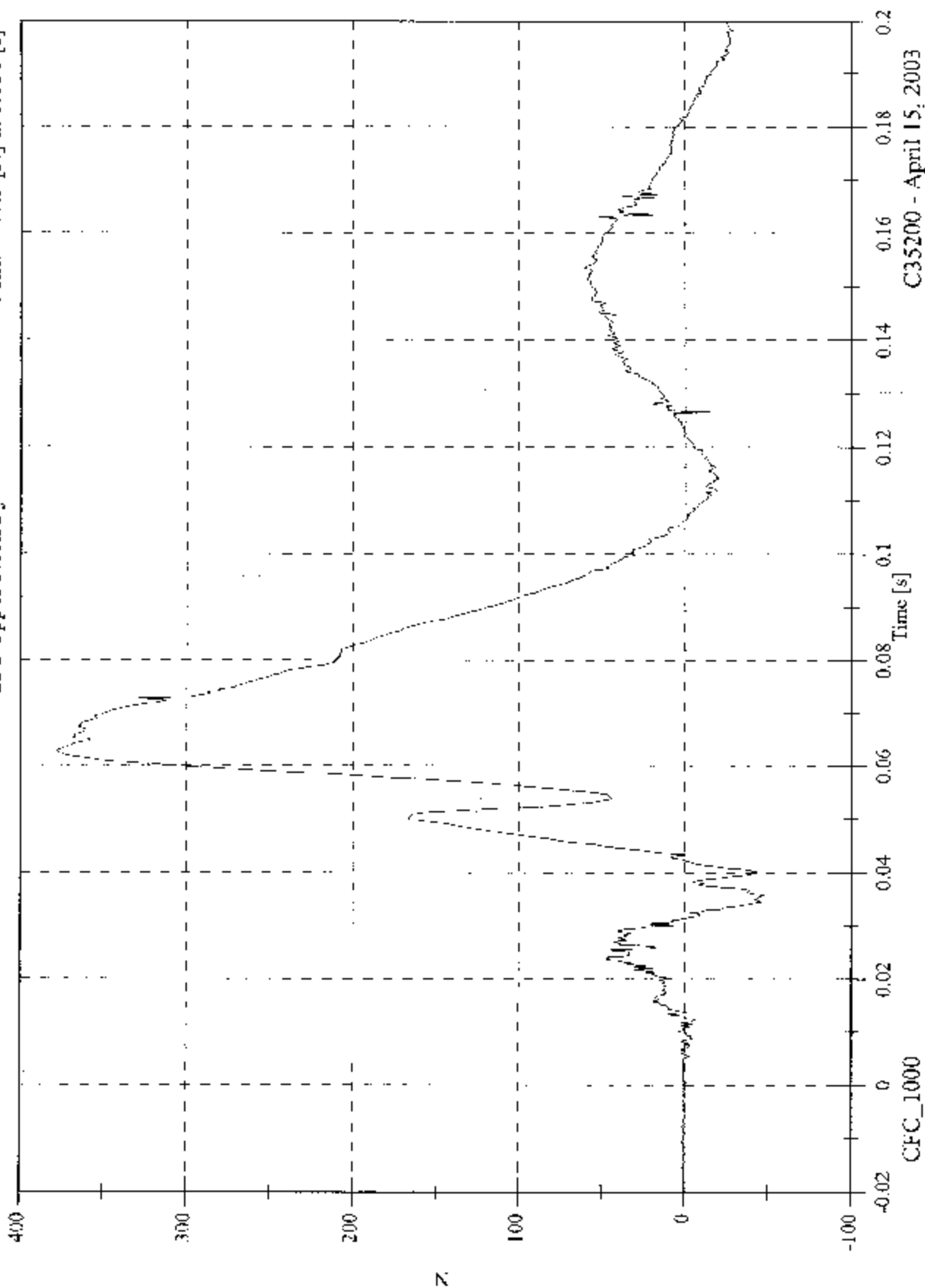


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 378.0 [N] at 0.063 [s]
Min: -47.9 [N] at 0.036 [s]

V2P1 Upper Neck Fy

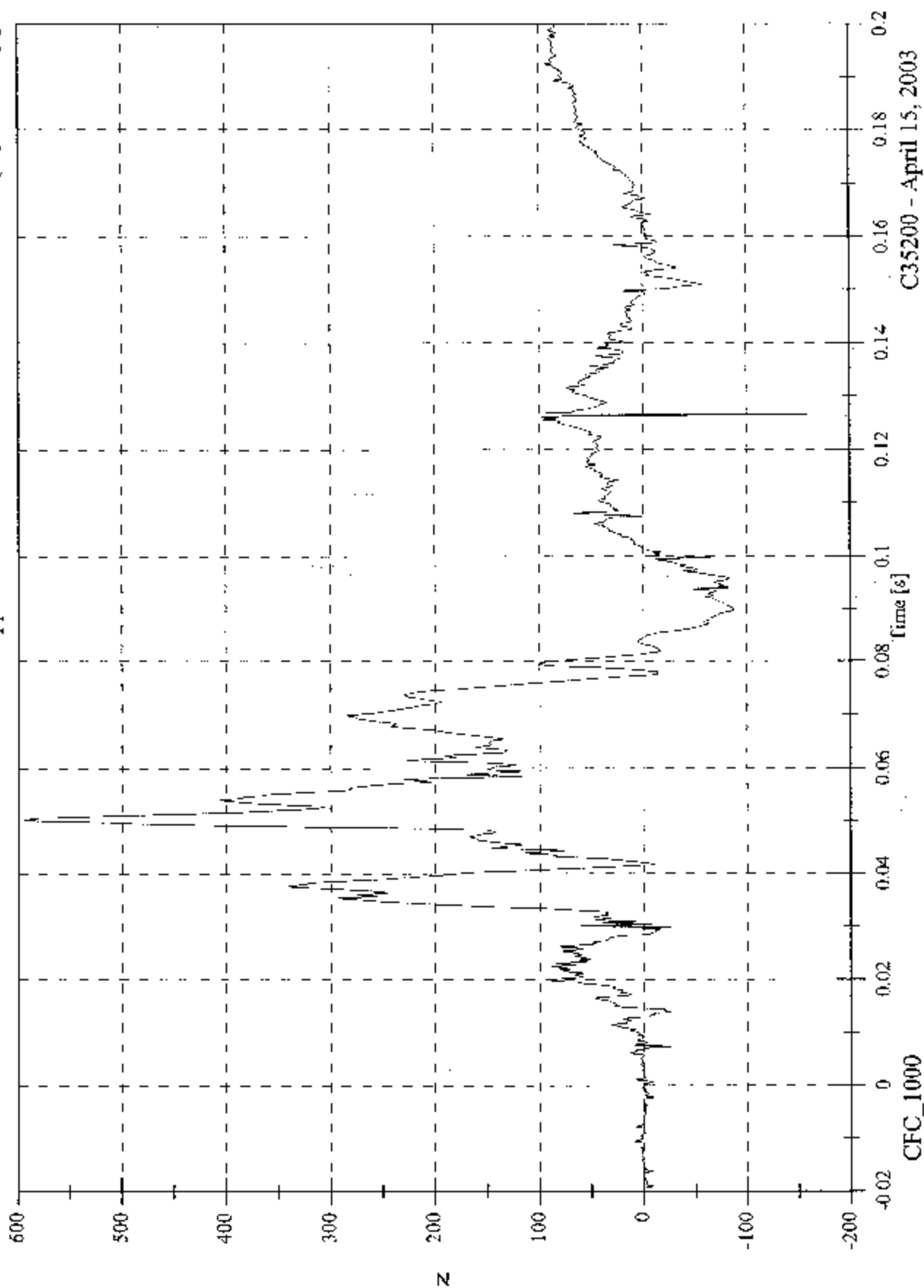


C35200 - April 15, 2003

2003 FMYSS 214D Test 5 2003 Nissan Murano SUV

Max: 593.5 [N] at 0.050 [s]
Min: -157.9 [N] at 0.126 [s]

V2P1 Upper Neck Fz

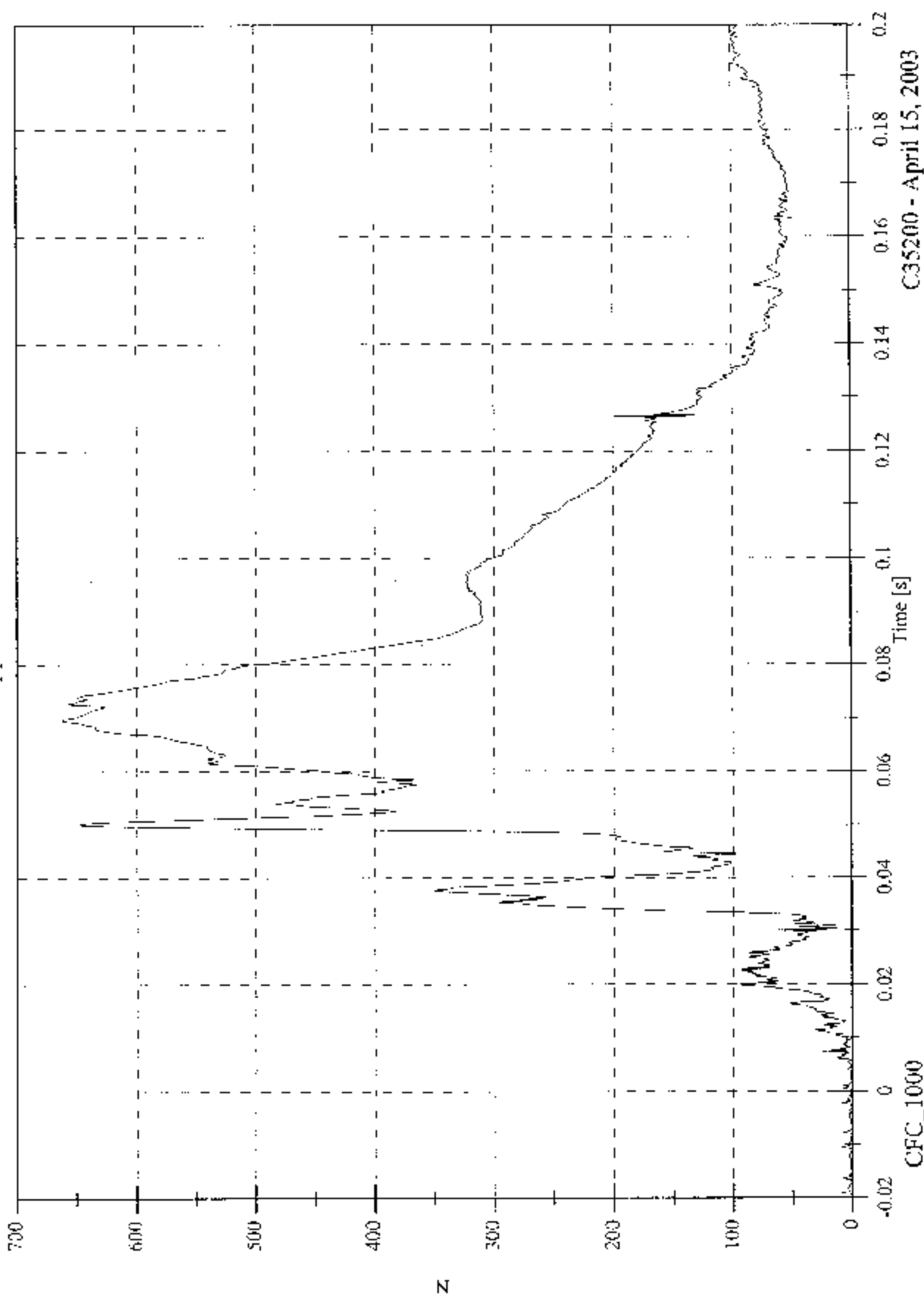


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 662.5 [N] at 0.070 [s]
 Min: 0.1 [N] at -0.015 [s]

V2P1 Upper Neck F Resultant

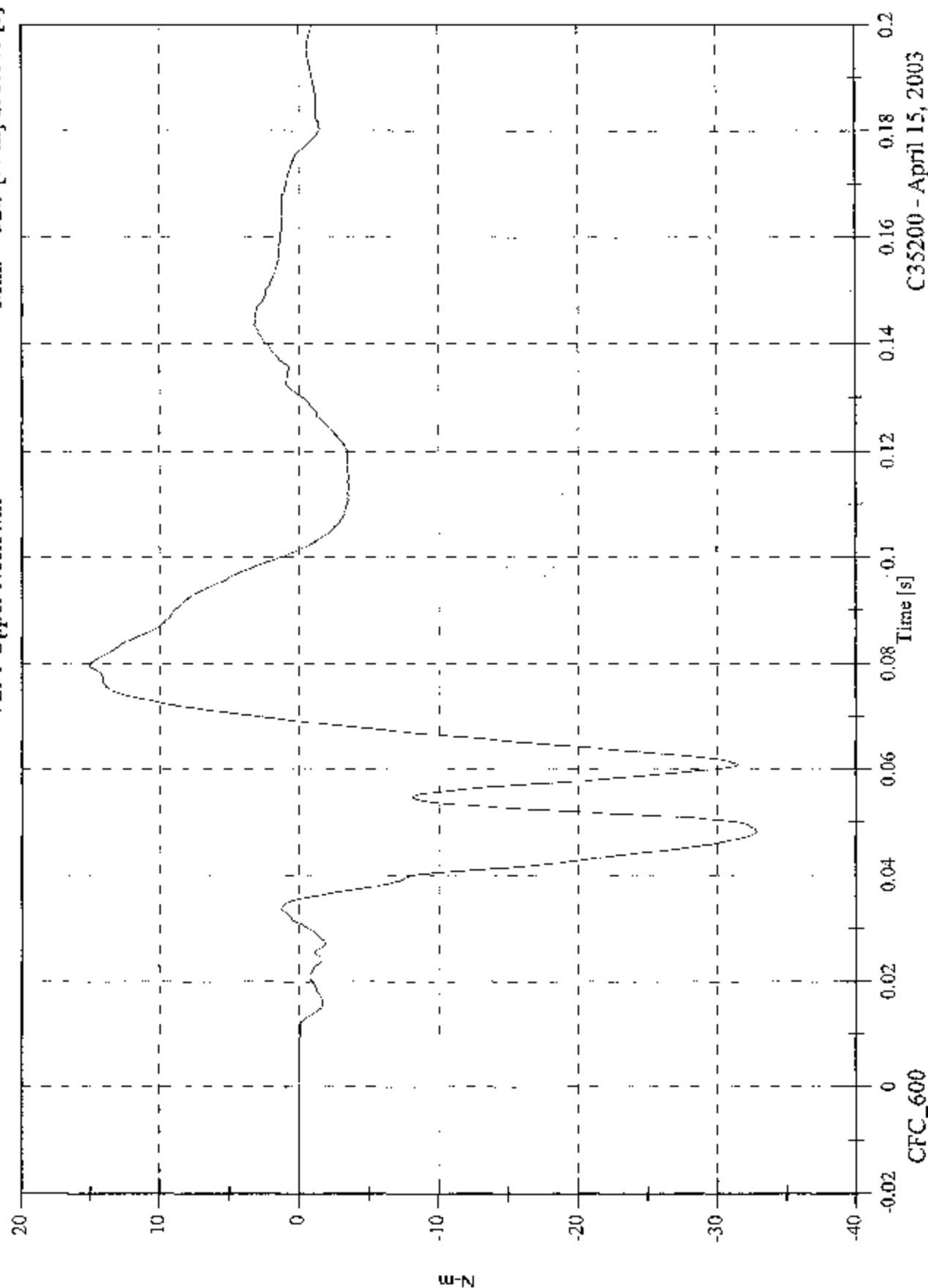


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 15.1 [N-m] at 0.080 [s]
Min: -32.9 [N-m] at 0.048 [s]

V2P1 Upper Neck Mx



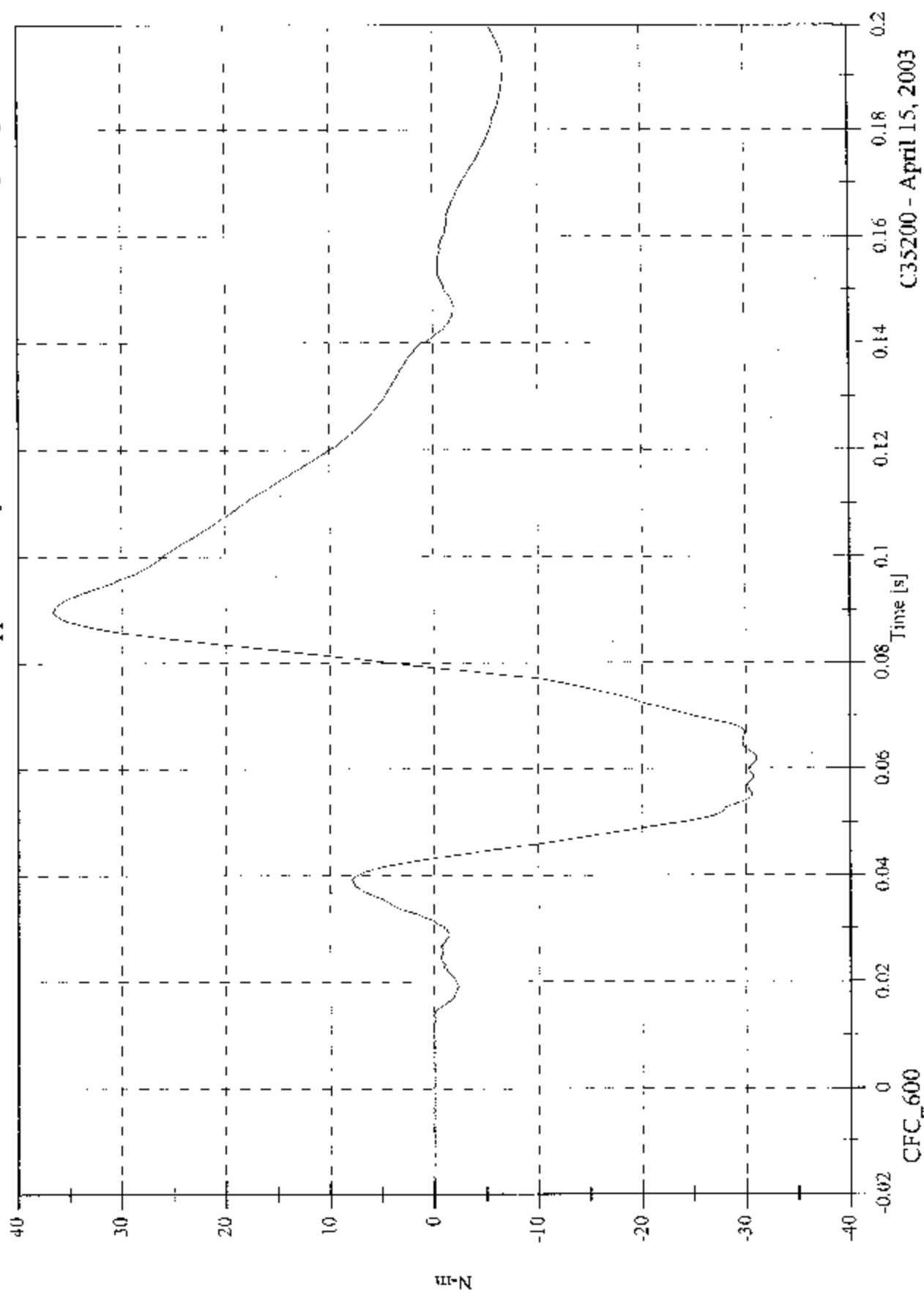
CFC_600

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 36.6 [N-m] at 0.090 [s]
Min: -31.1 [N-m] at 0.062 [s]

V2P1 Upper Neck My

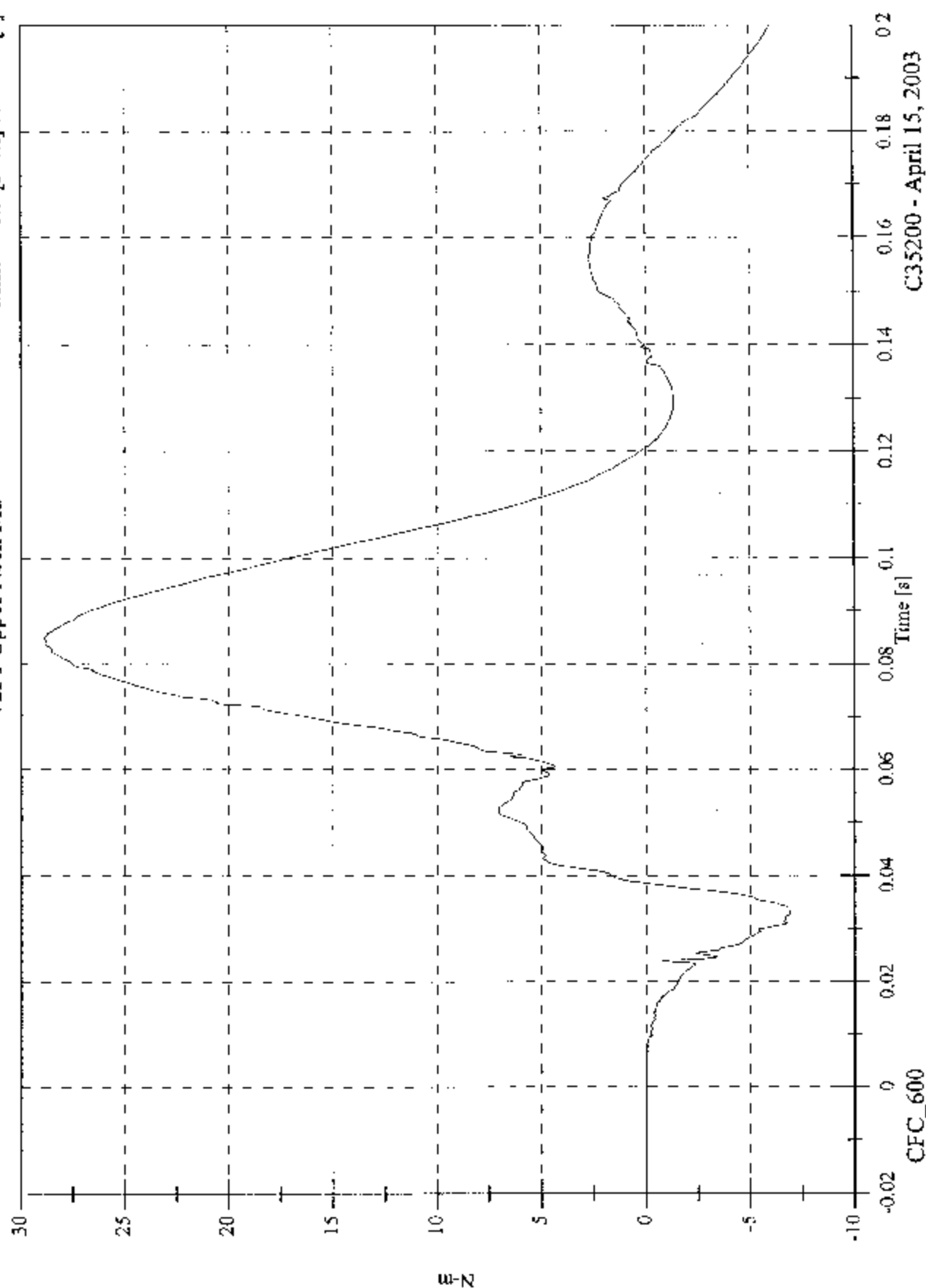


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 28.9 [N-m] at 0.085 [s]
Min: -6.9 [N-m] at 0.033 [s]

V2P1 Upper Neck Mz

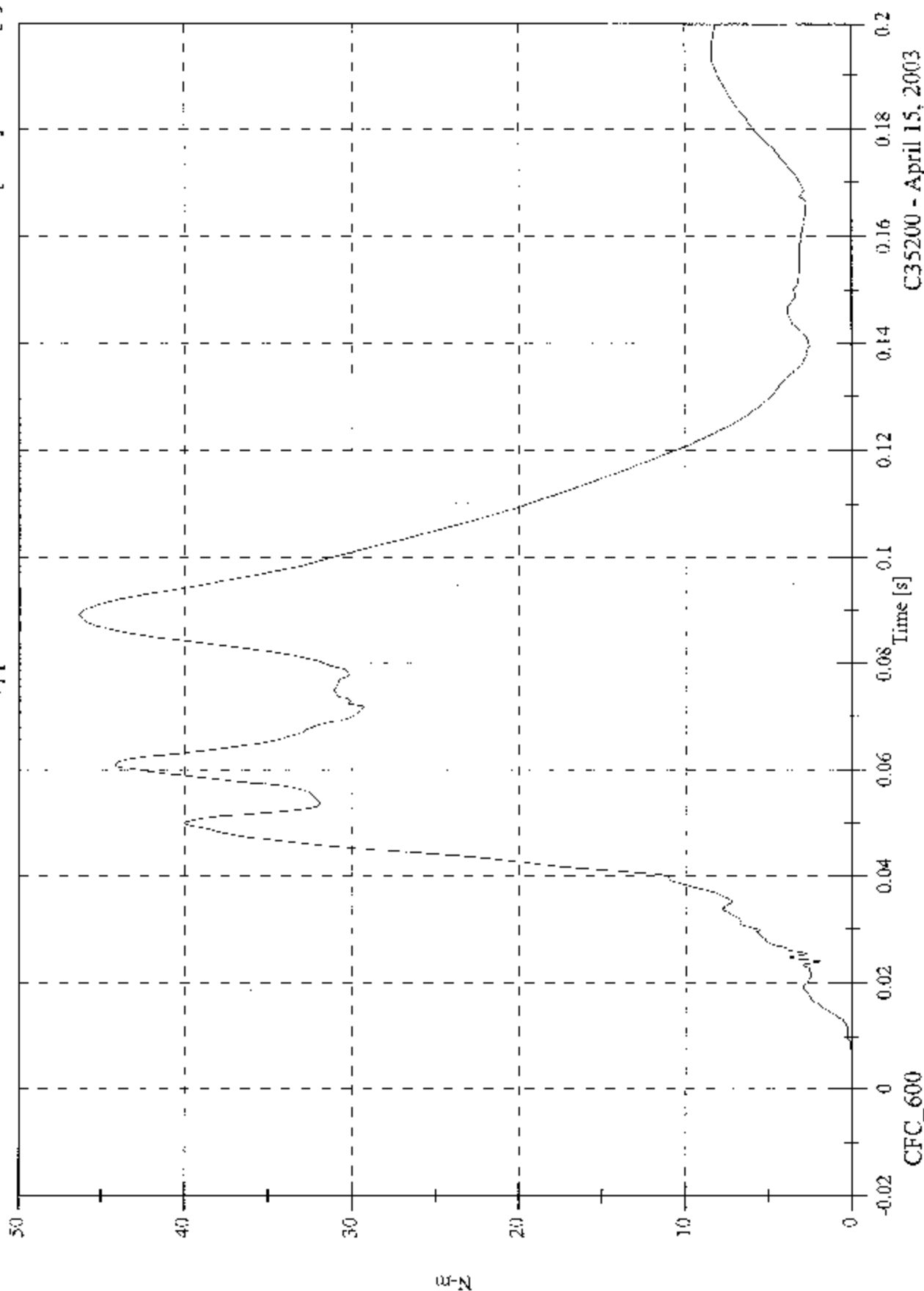


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 46.4 [N-m] at 0.089 [s]
Min: 0.0 [N-m] at -0.012 [s]

V2P1 Upper Neck M Resultant

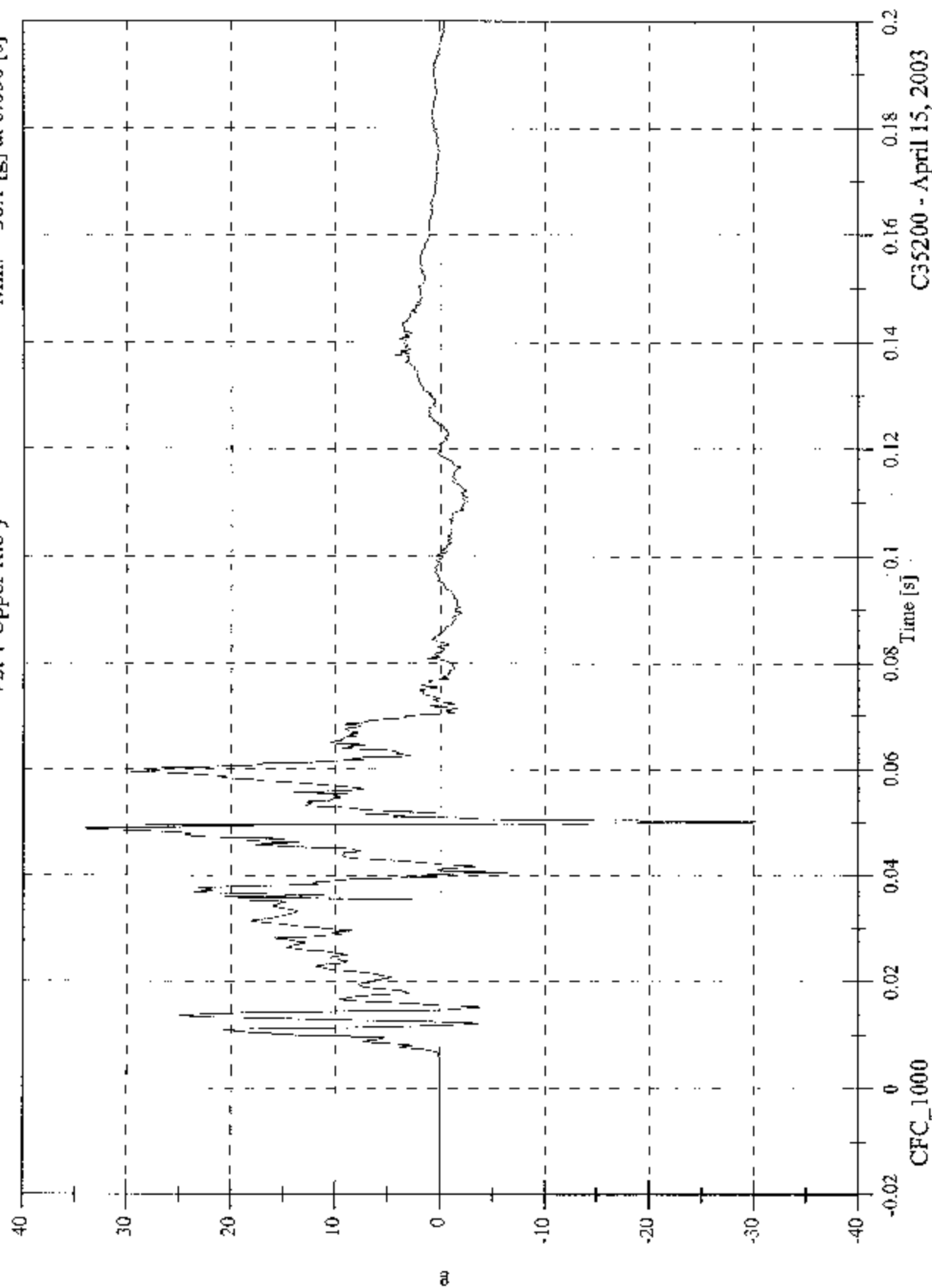


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 34.2 [g] at 0.049 [s]
Min: -30.1 [g] at 0.050 [s]

V2P1 Upper Rib y



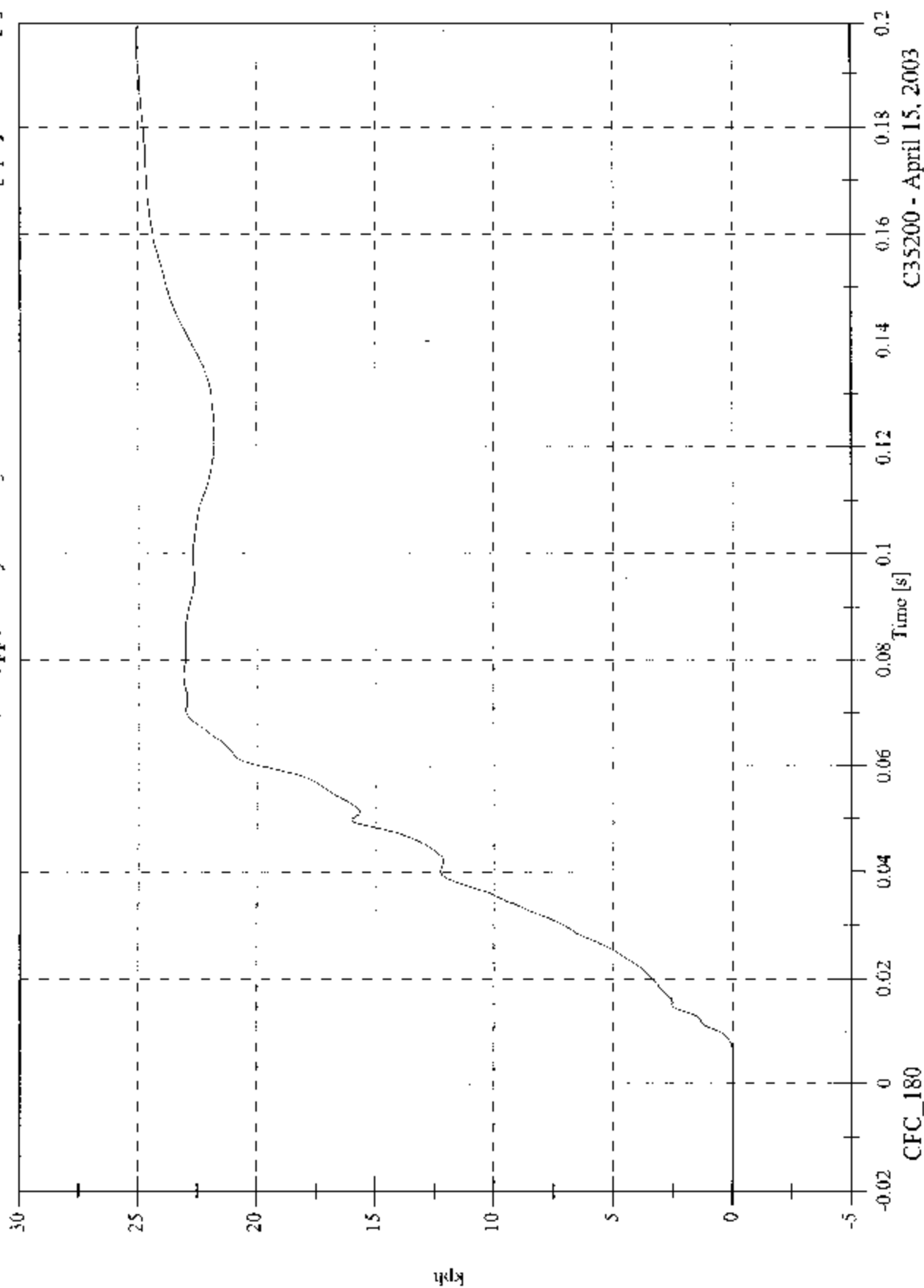
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Rib y Velocity

Max: 25.0 [kph] at 0.195 [s]

Min: -0.0 [kph] at -0.020 [s]

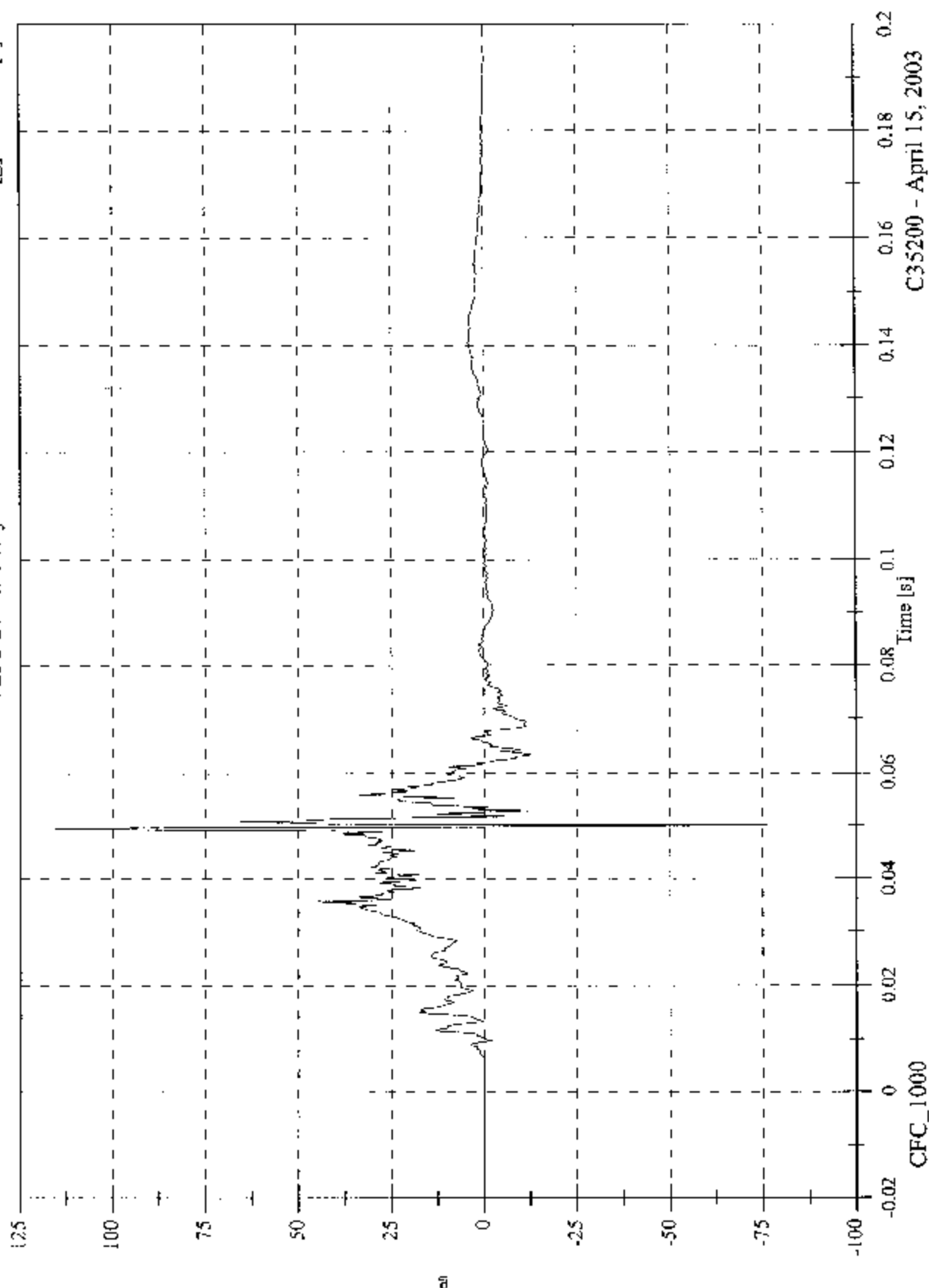


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 115.5 [g] at 0.049 [s]
Min: -76.1 [g] at 0.050 [s]

V2P1 Lower Rib y

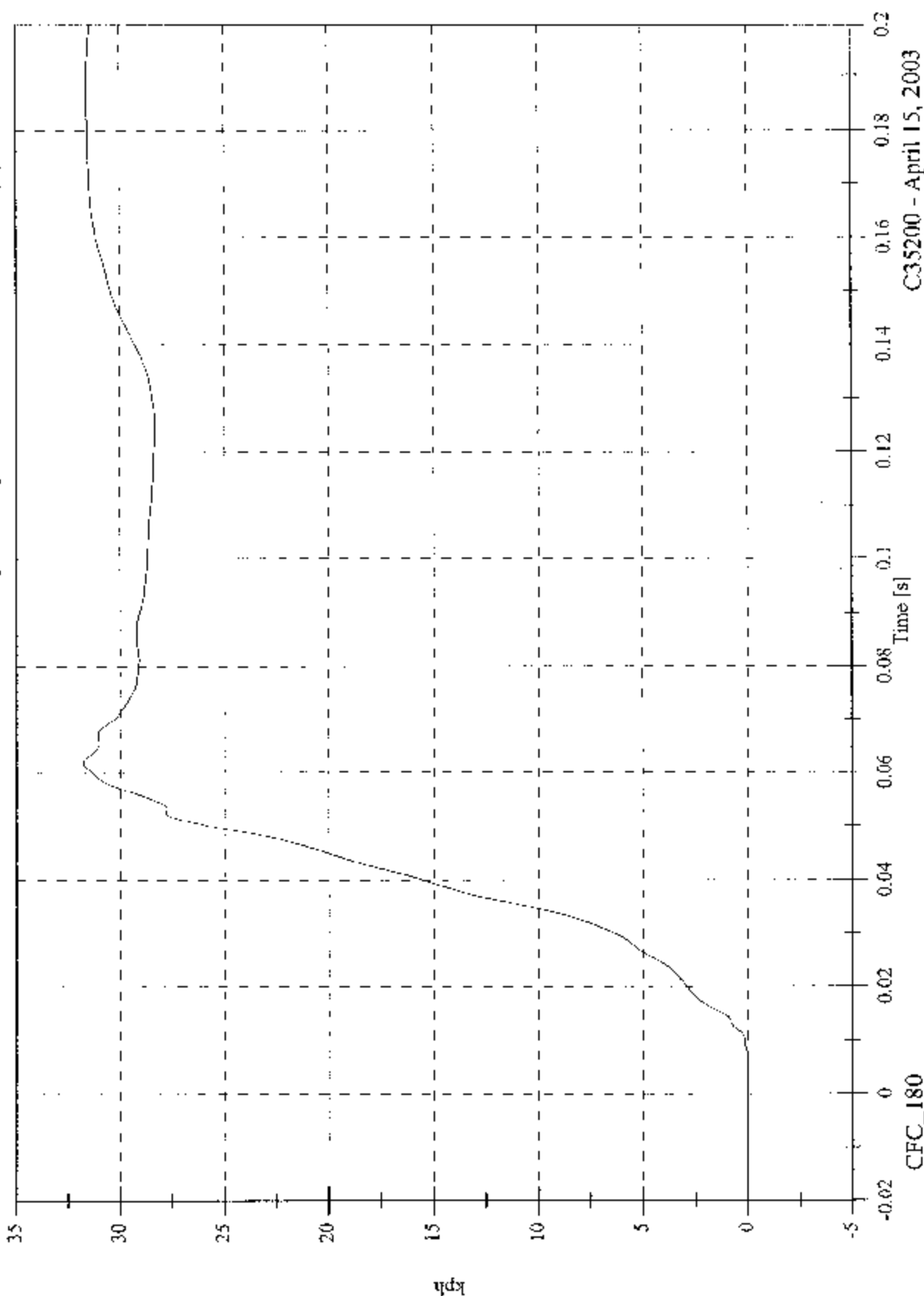


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SLV

V2P1 Lower Rib y Velocity

Max: 31.8 [kph] at 0.062 [s]
Min: -0.0 [kph] at -0.017 [s]

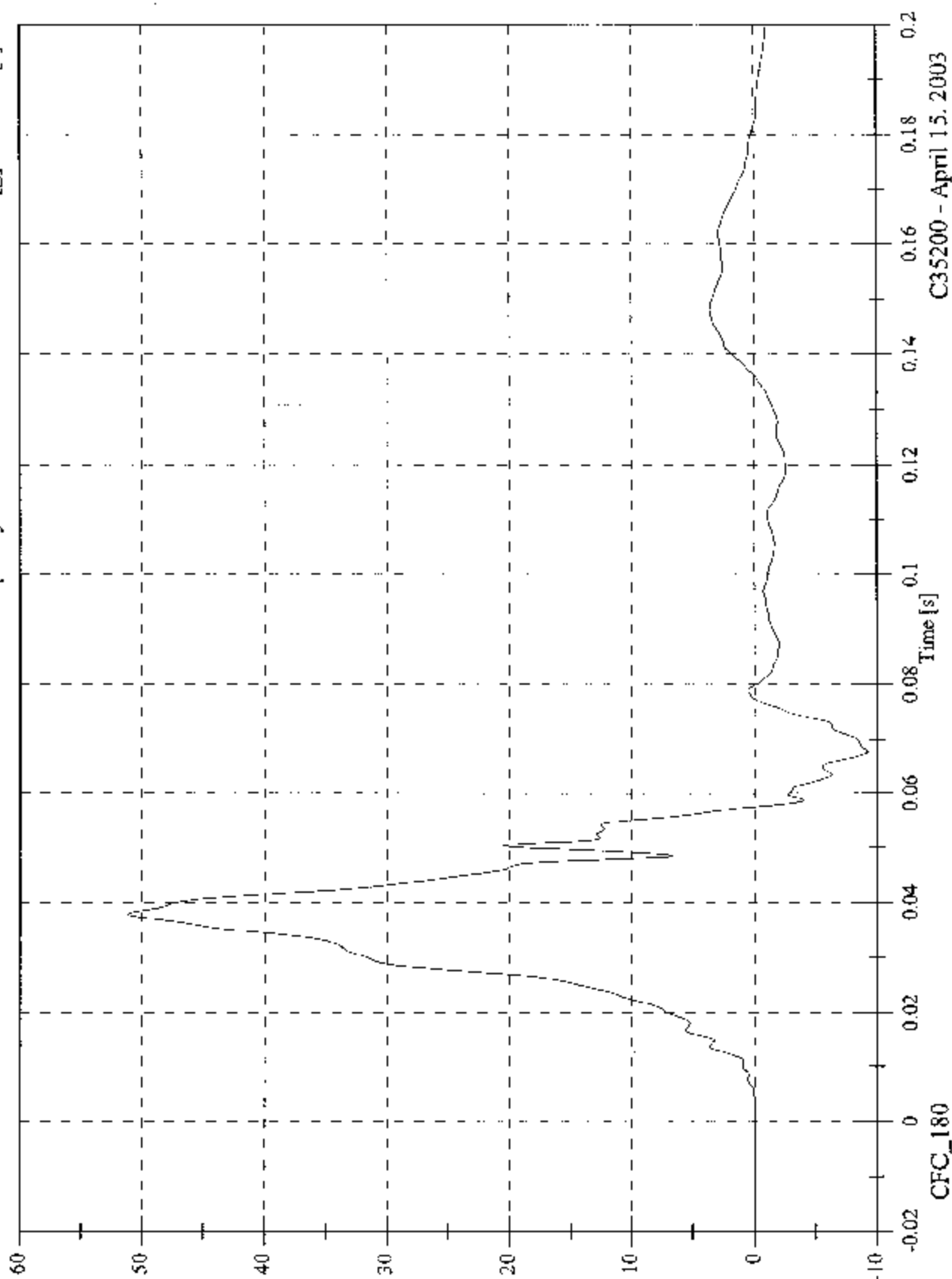


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 51.2 [g] at 0.038 [s]
Min: -9.2 [g] at 0.068 [s]

V2P1 Lower Spine y

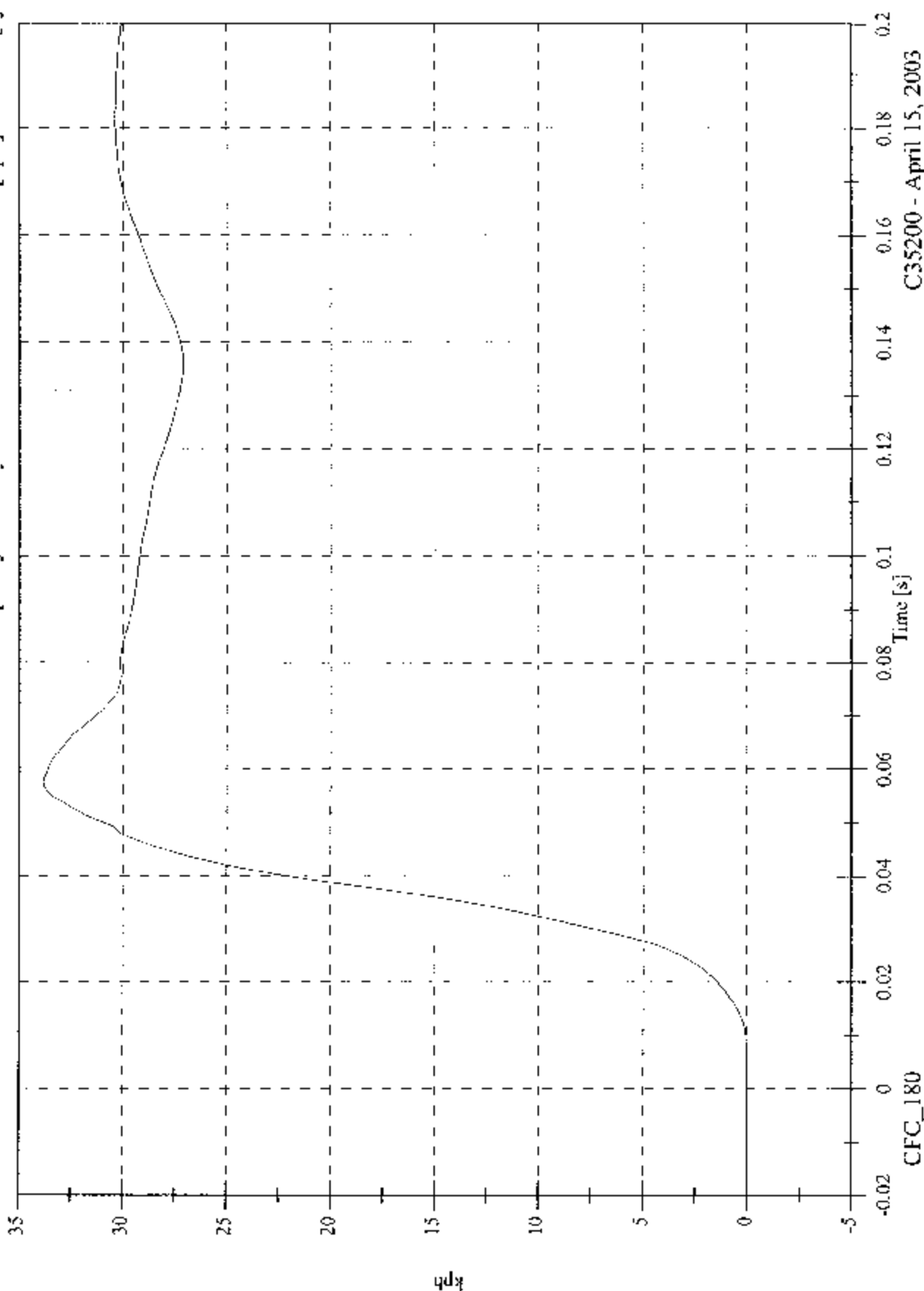


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 33.8 [kph] at 0.057 [s]
Min: -0.0 [kph] at -0.020 [s]

V2P1 Lower Spine y Velocity

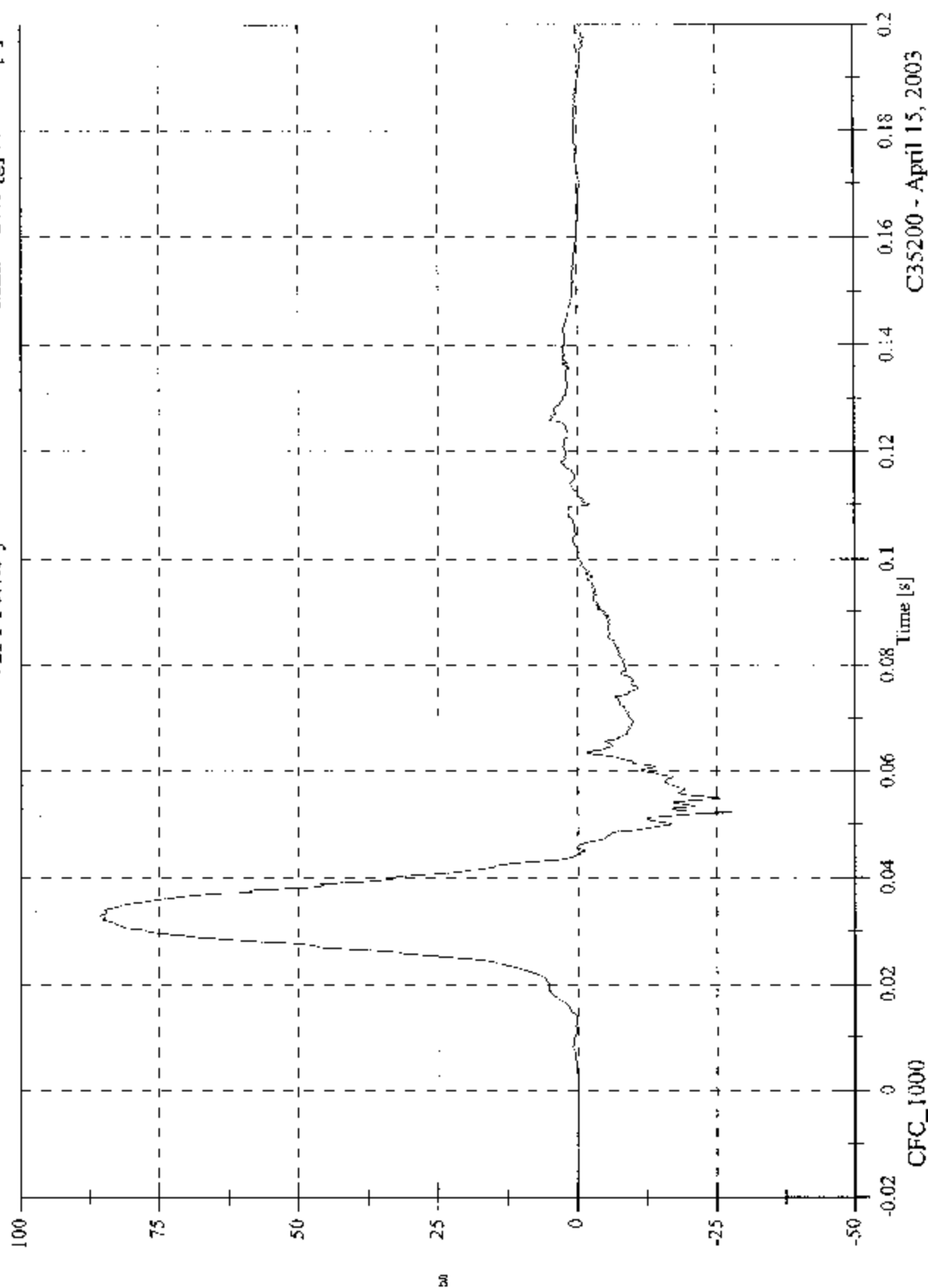


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 85.7 [g] at 0.033 [s]
Min: -27.8 [g] at 0.052 [s]

V2P1 Pelvic y

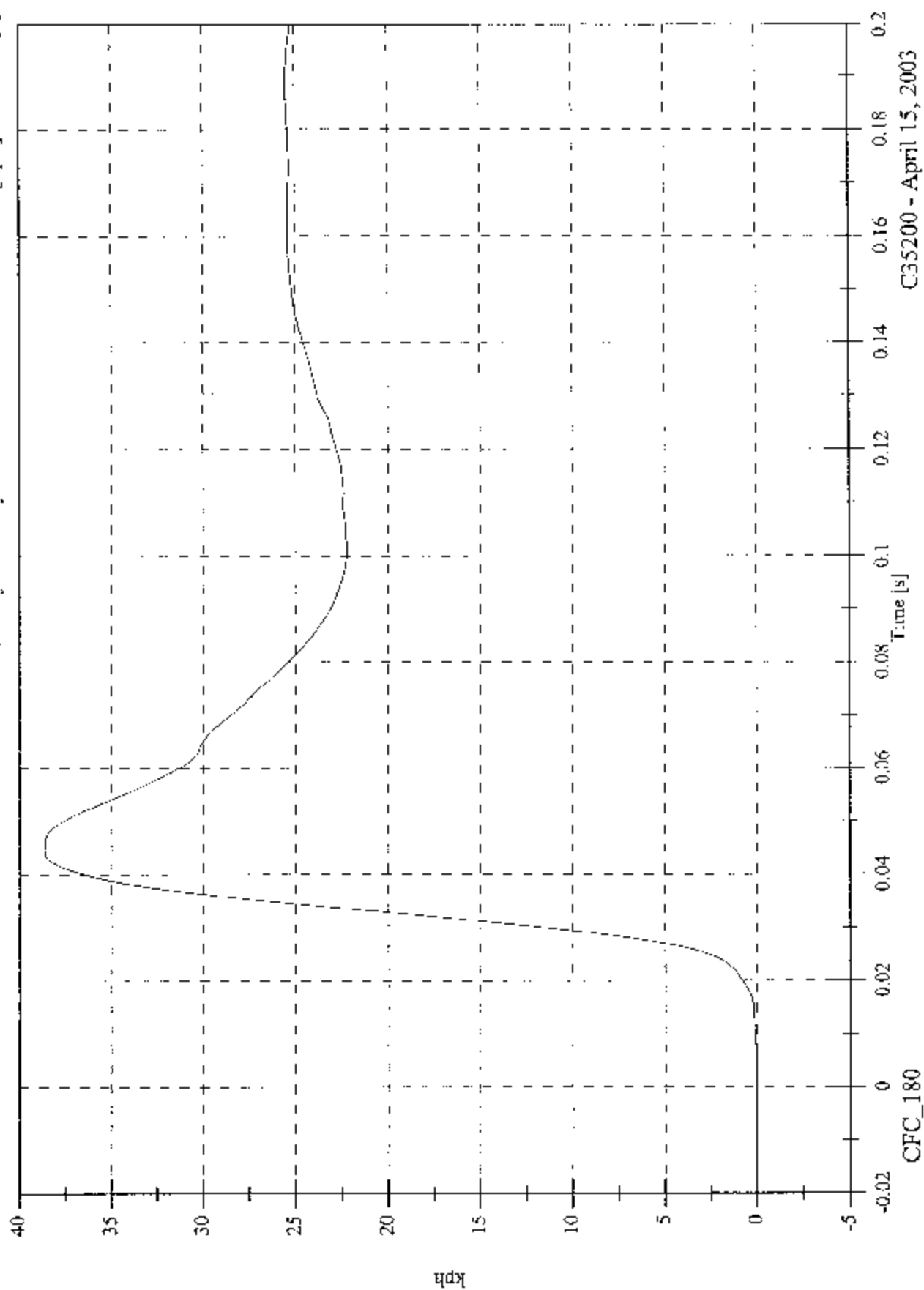


C3S200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic y Velocity

Max: 38.7 [kph] at 0.044 [s]
Min: -0.0 [kph] at -0.018 [s]

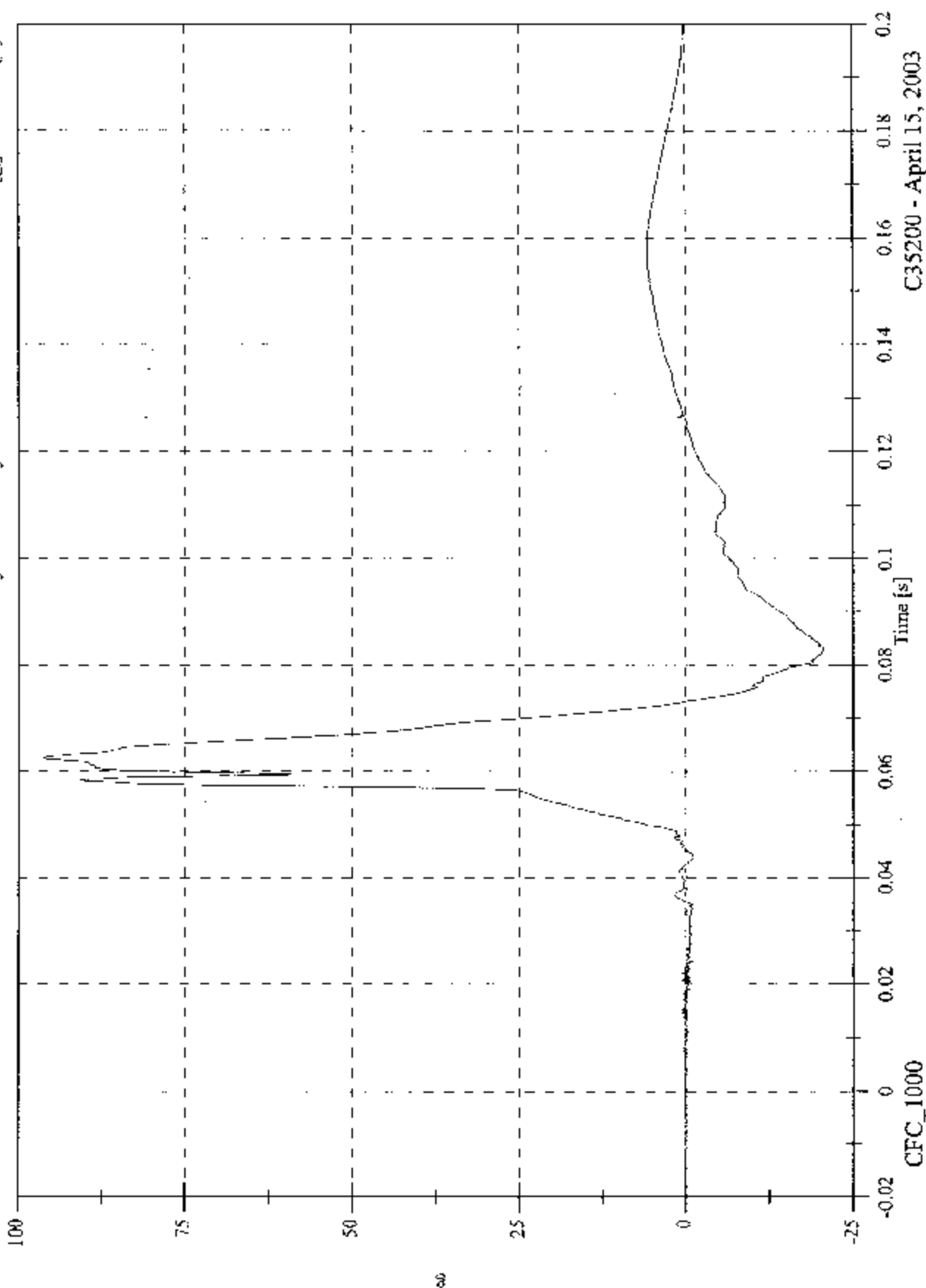


C3S200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 96.2 [g] at 0.063 [s]
Min: -20.5 [g] at 0.083 [s]

V2P4 Head 9 Array X Arm Ay



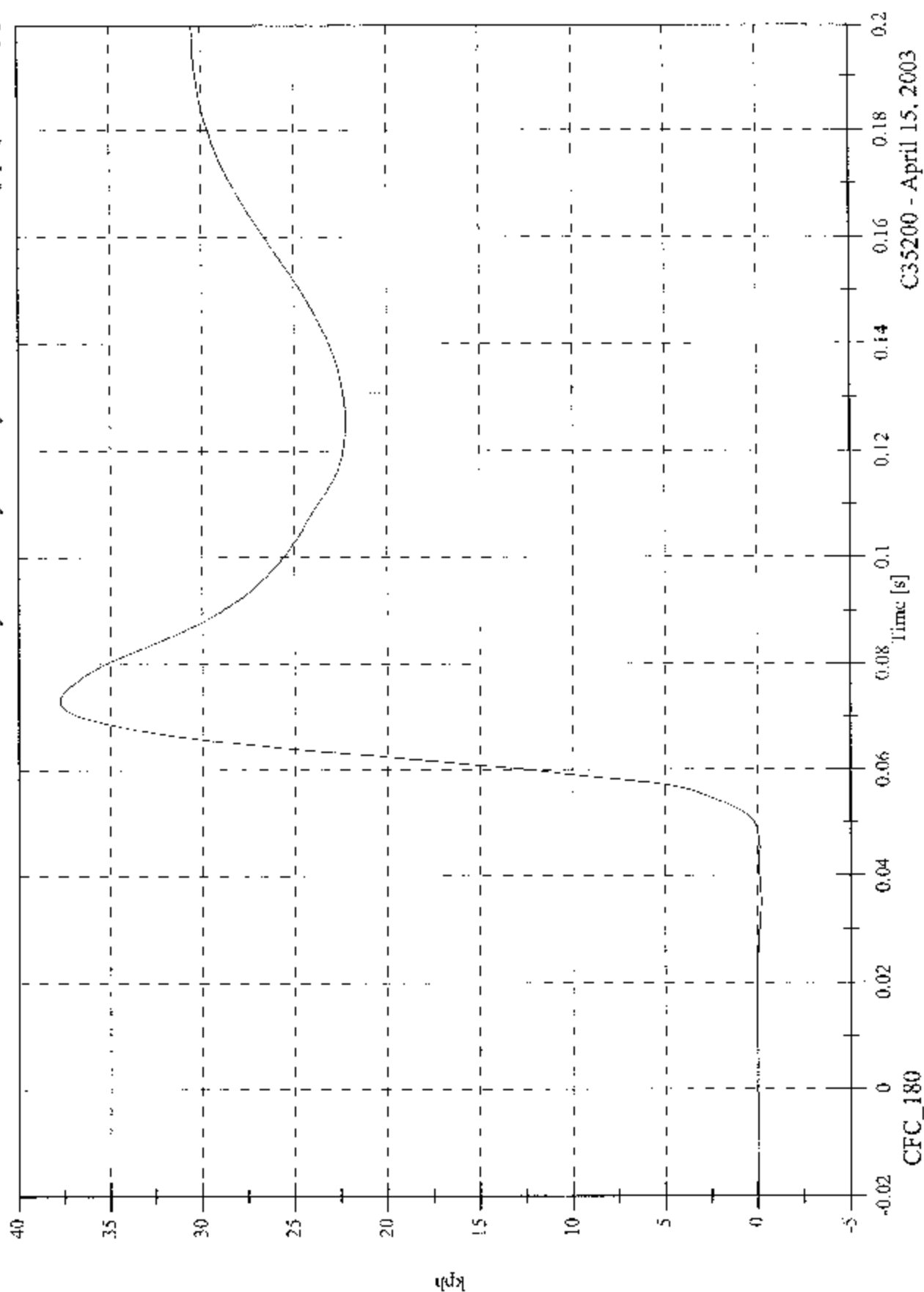
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 37.7 [kph] at 0.073 [s]

V2P4 Head 9 Array X Arm Ay Velocity

Min: -0.2 [kph] at 0.035 [s]



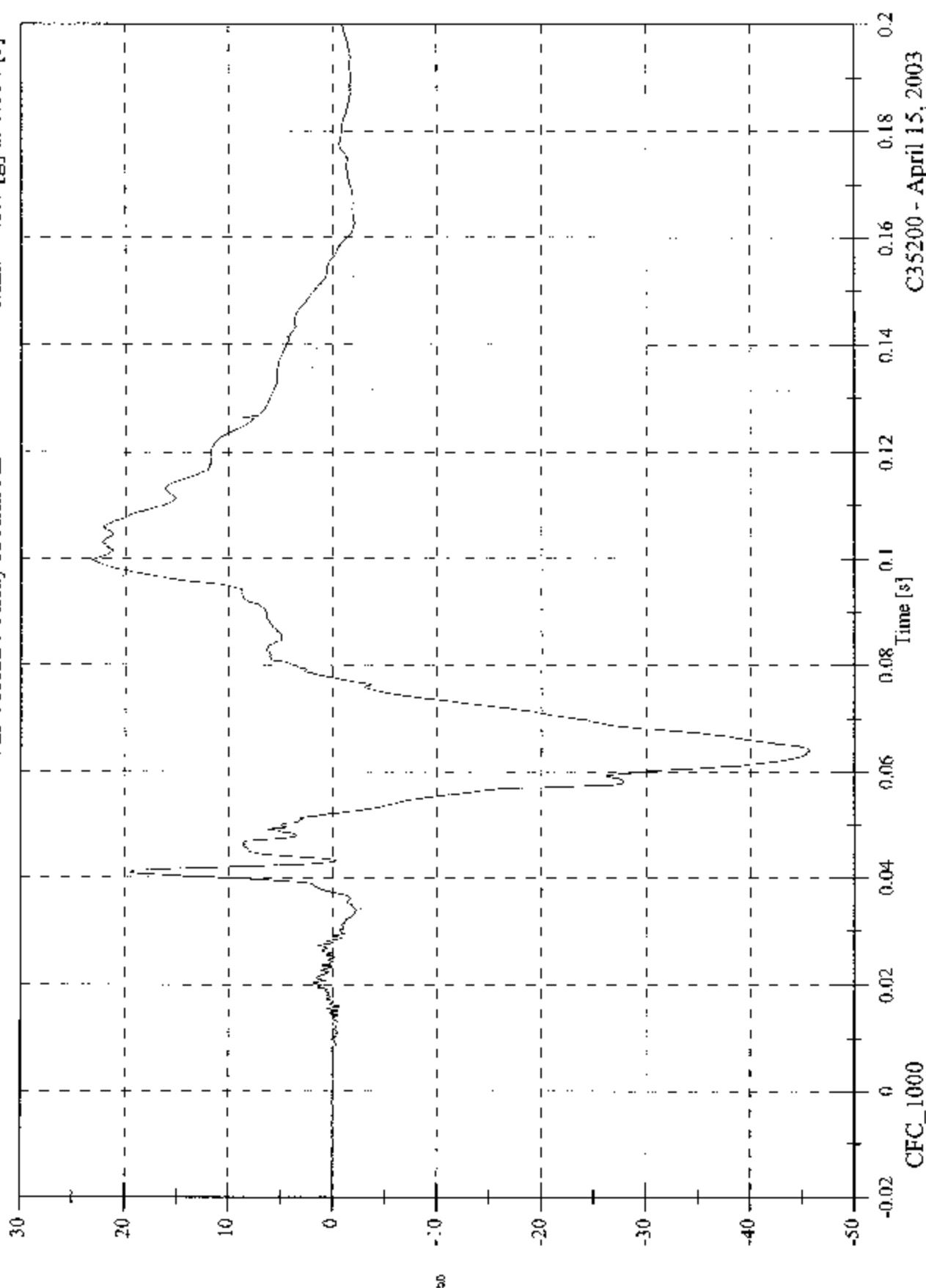
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 23.2 [g] at 0.100 [s]

Min: -45.7 [g] at 0.064 [s]

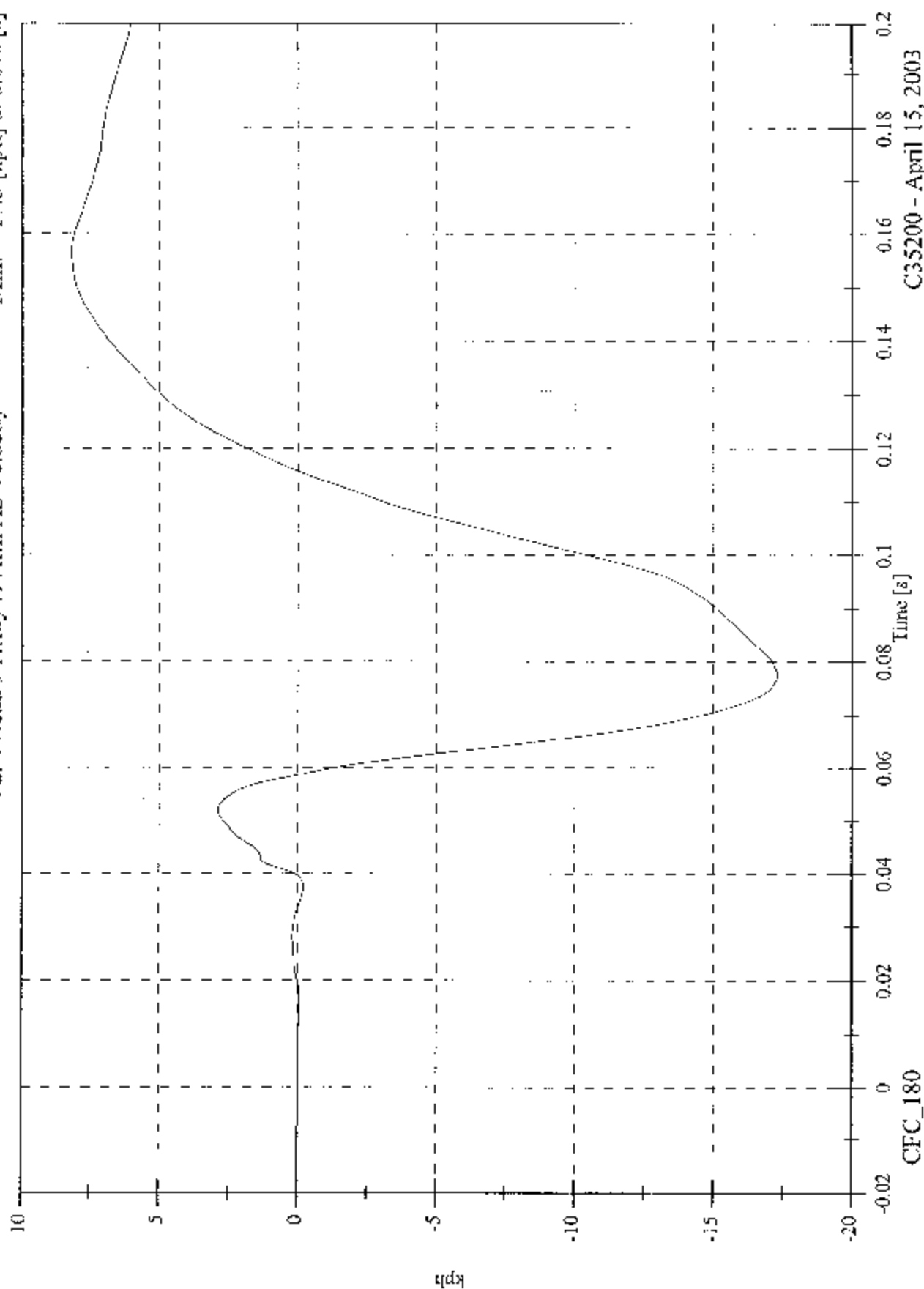
V2P4 Head 9 Array X Arm Az



2003 F4VSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array X Arm Az Velocity

Max: 8.2 [kph] at 0.156 [s]
Min: -17.3 [kph] at 0.078 [s]



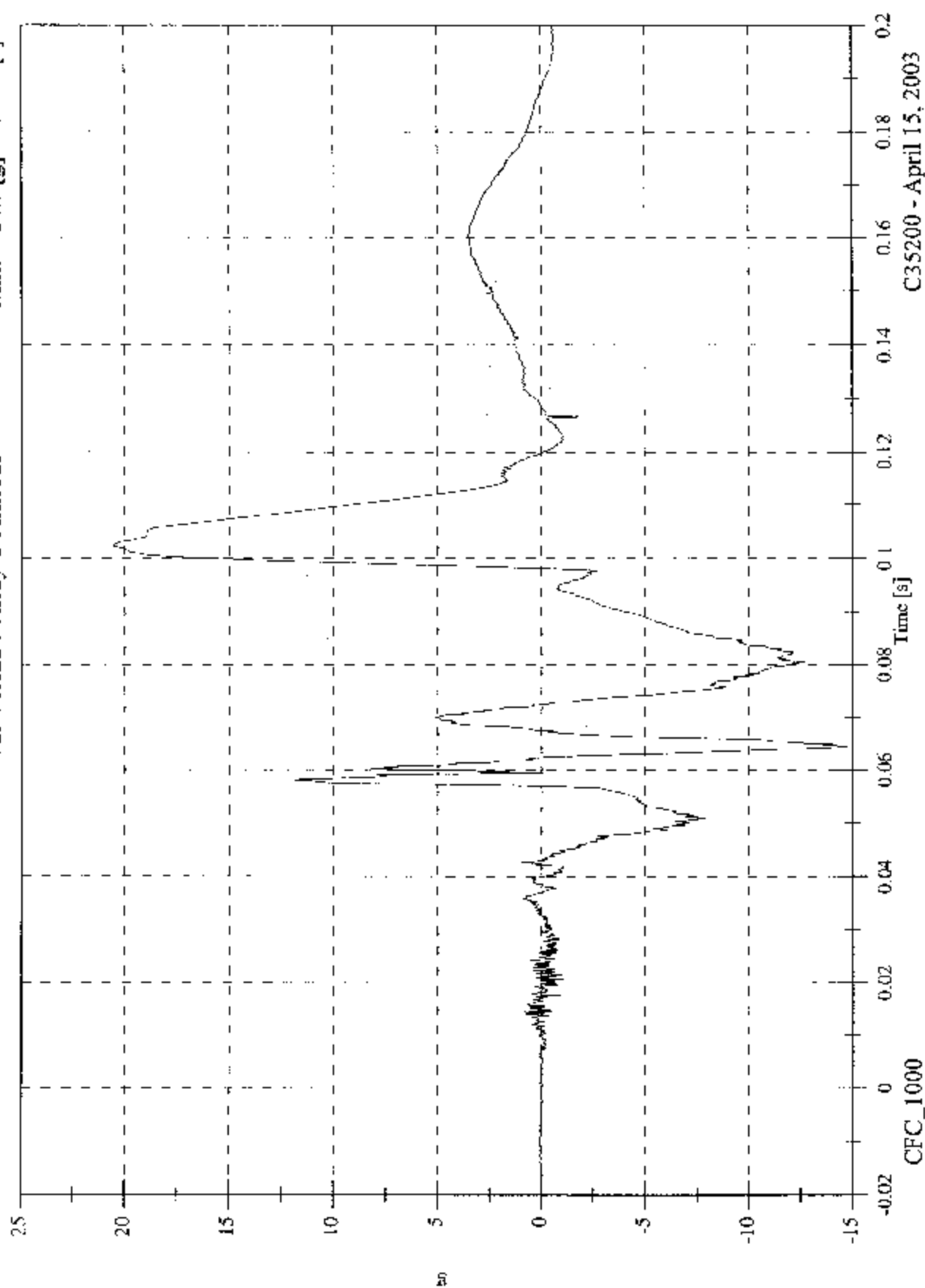
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Y Arm Ax

Max: 20.5 [g] at 0.102 [s]

Min: -14.7 [g] at 0.064 [s]

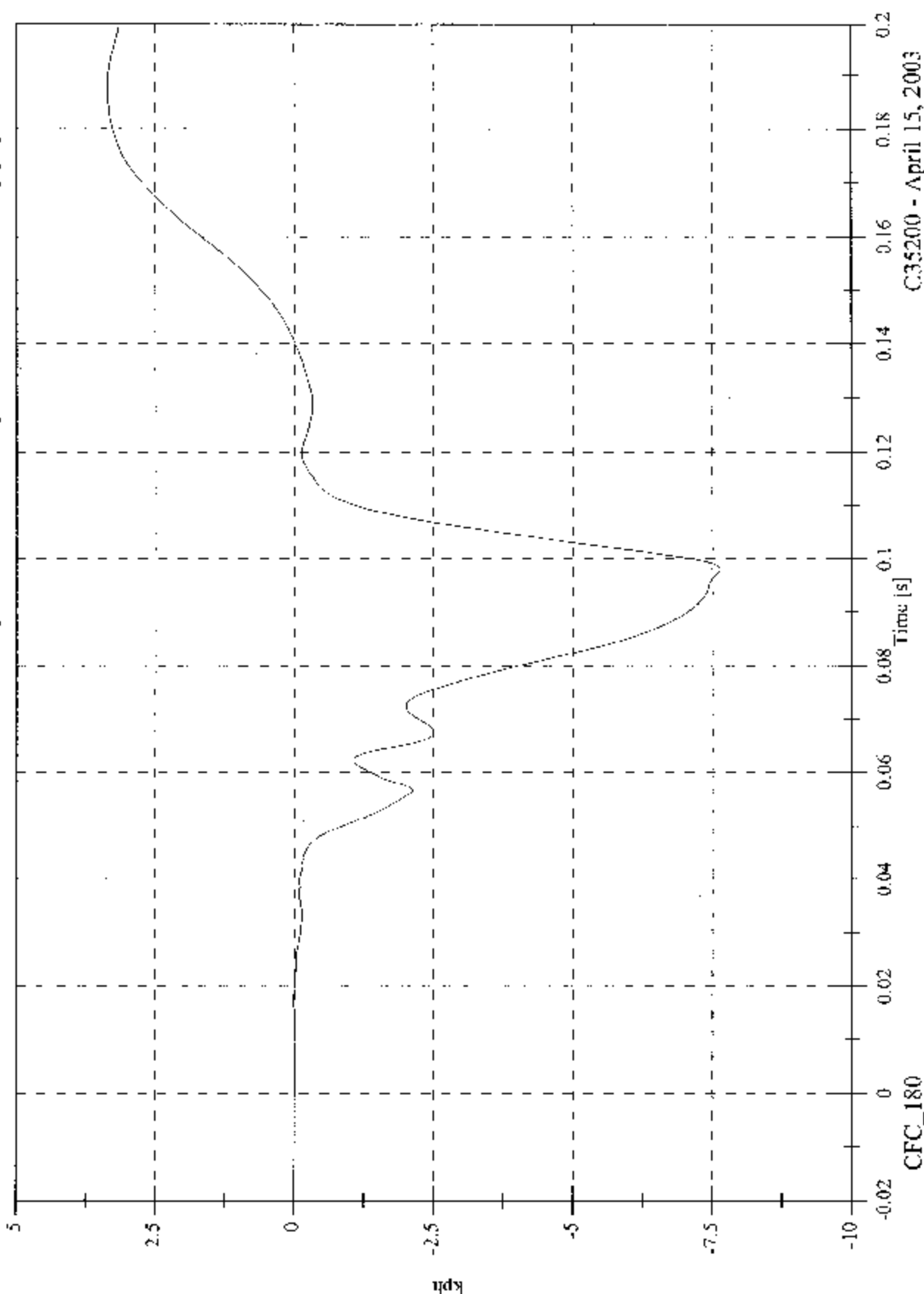


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Y Arm Ax Velocity

Max: 3.4 [kph] at 0.187 [s]
Min: -7.6 [kph] at 0.098 [s]

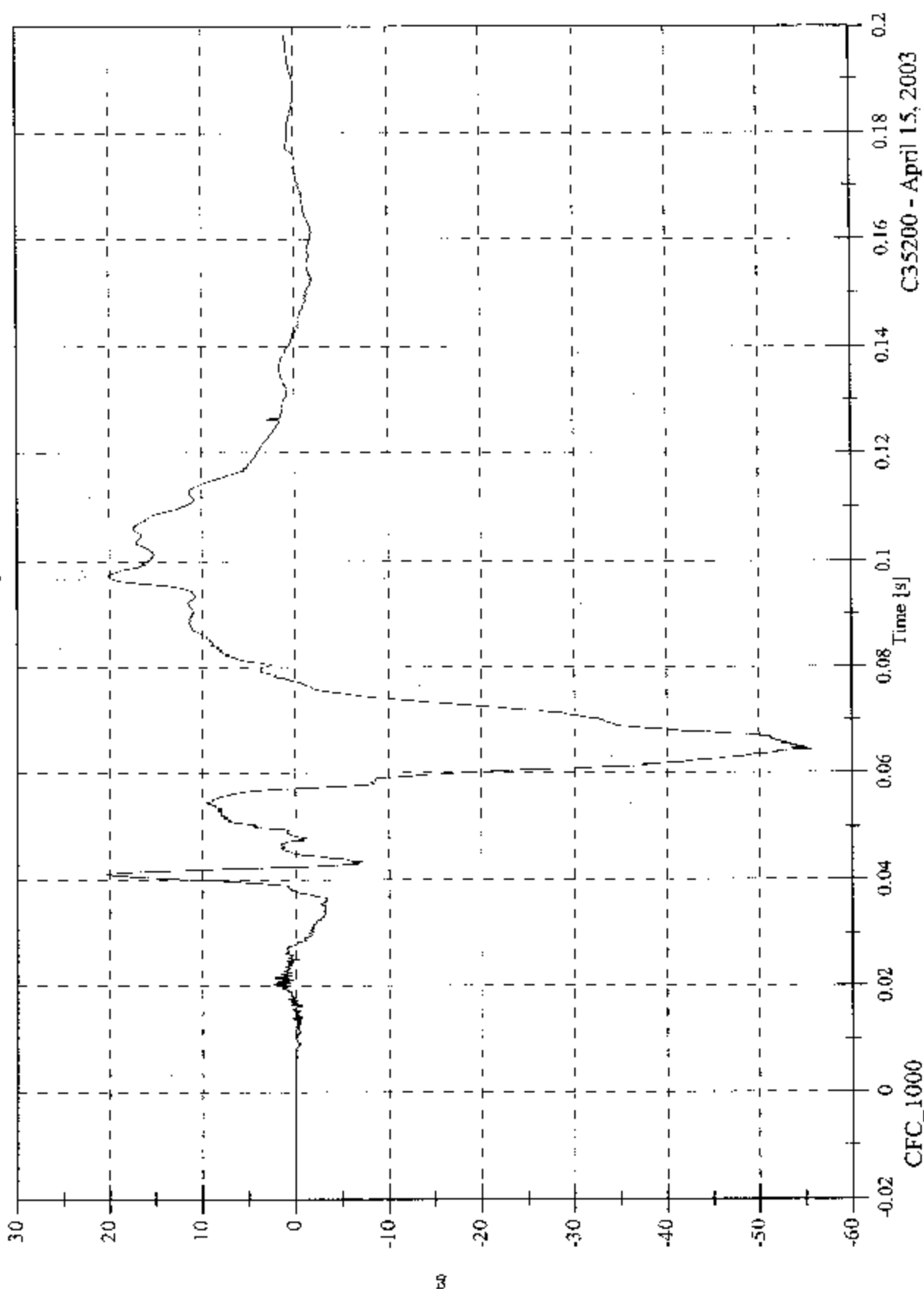


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Y Arm Az

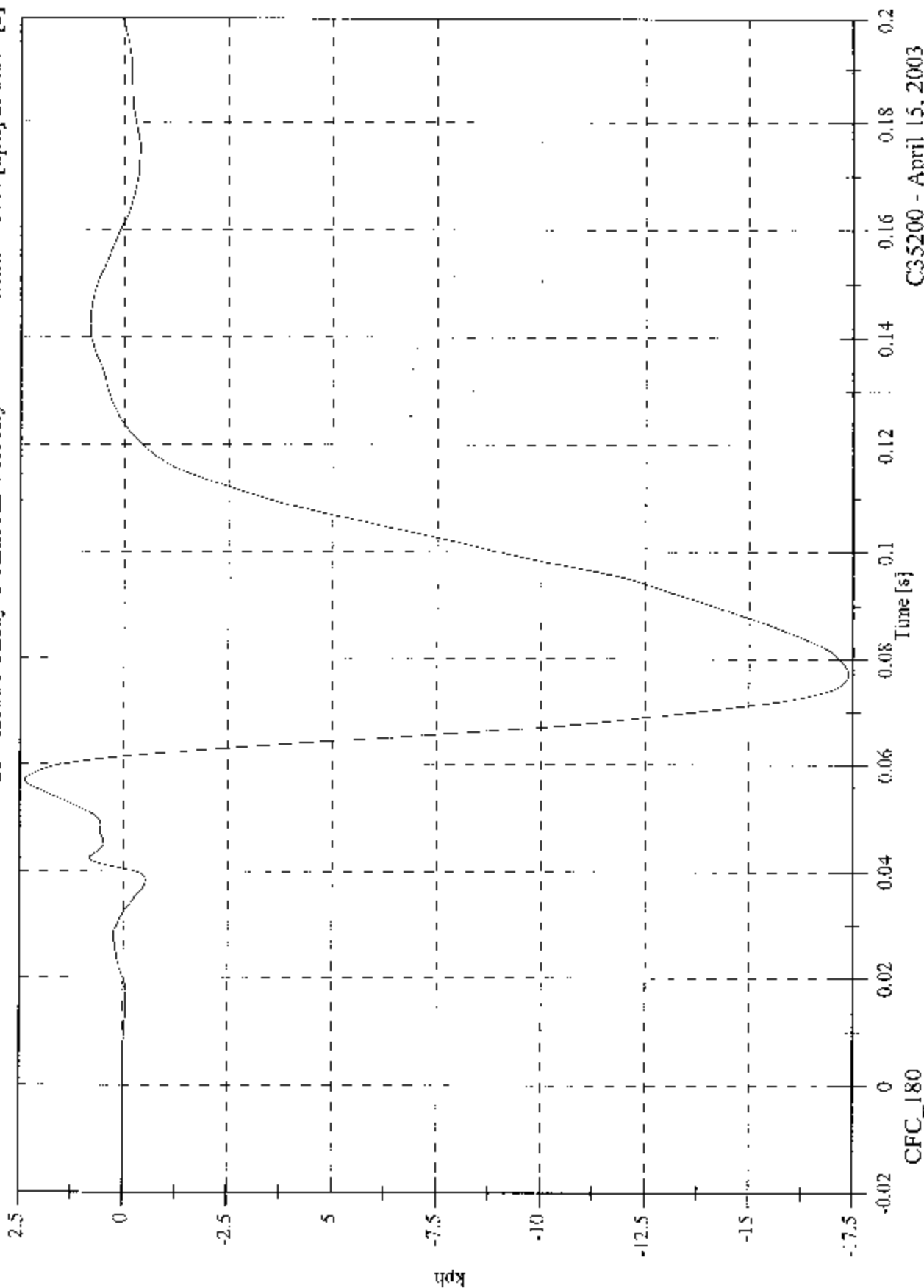
Max: 20.4 [g] at 0.041 [s]
Min: -55.6 [g] at 0.064 [s]



C35200 - April 15, 2003

V2P4 Head 9 Array Y Arm Az Velocity

Max: 2.4 [kph] at 0.057 [s]
Min: -17.4 [kph] at 0.077 [s]

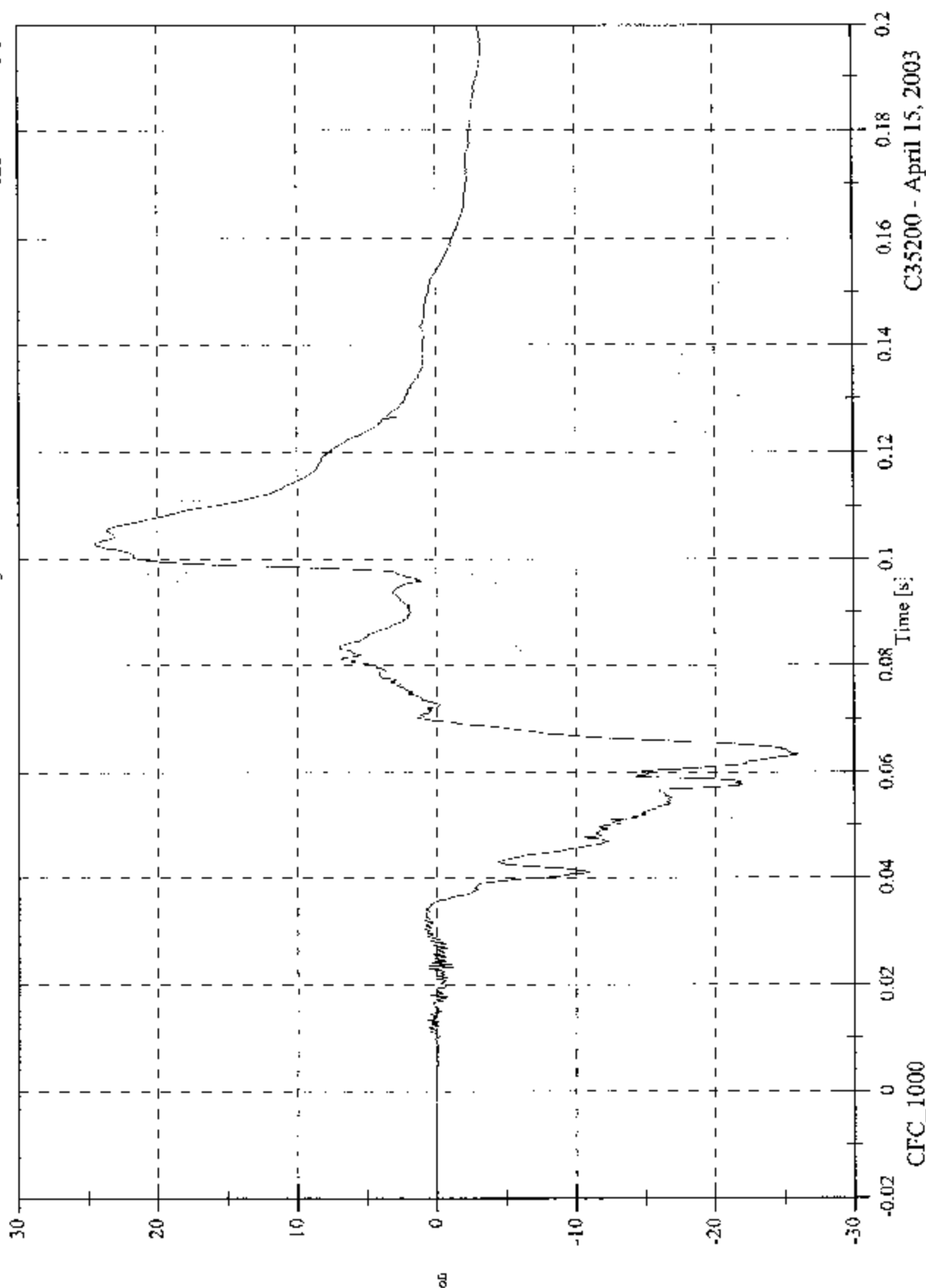


C35200 - April 15, 2003

2003 FMYSS 214D Test 5 2003 Nissan Murano SUV

Max: 24.6 [g] at 0.103 [s]
Min: -26.0 [g] at 0.063 [s]

V2P4 Head 9 Array Z Arm Ax

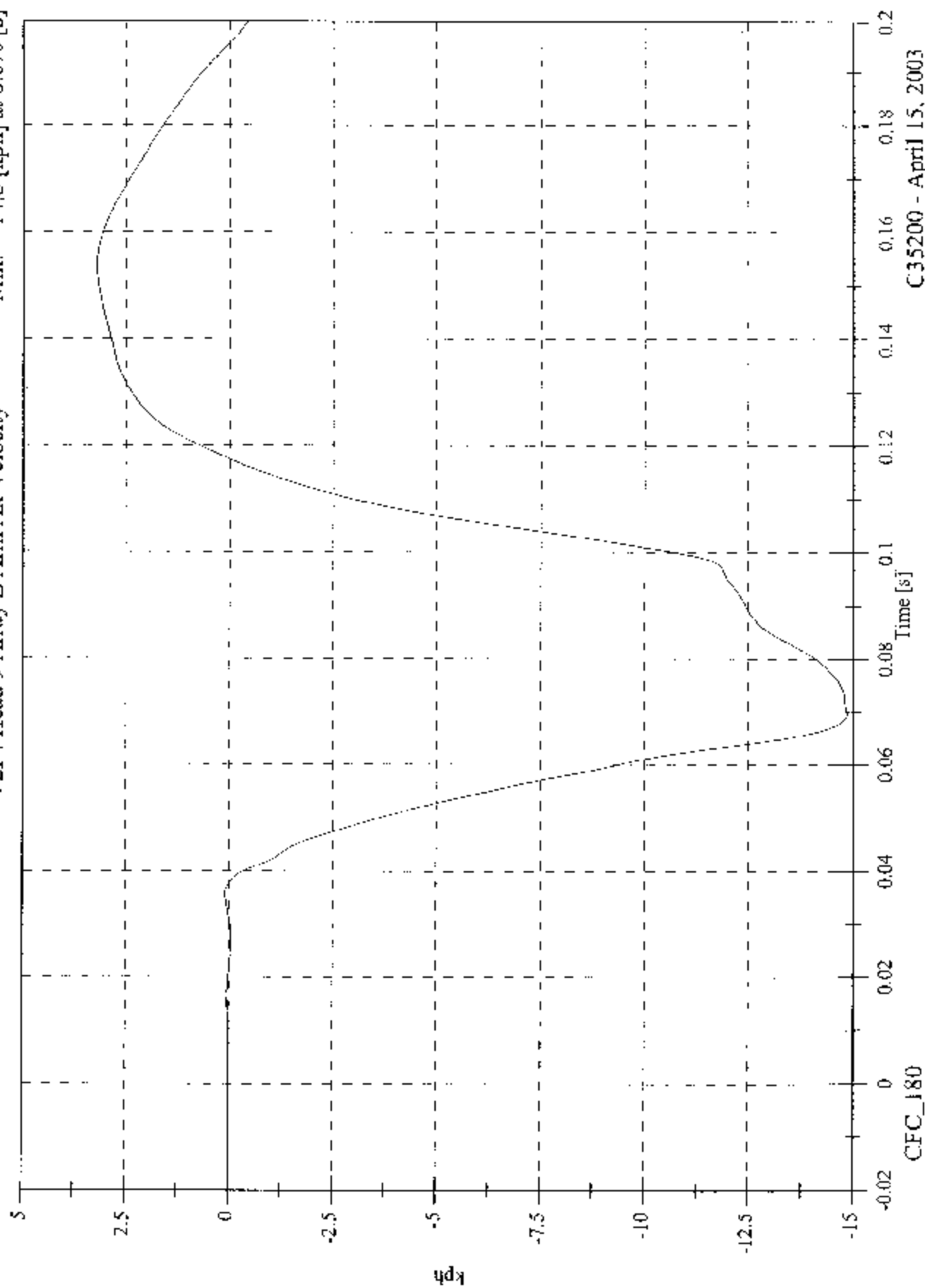


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Z Arm Ax Velocity

Max: 3.2 [kph] at 0.154 [s]
Min: -14.8 [kph] at 0.070 [s]



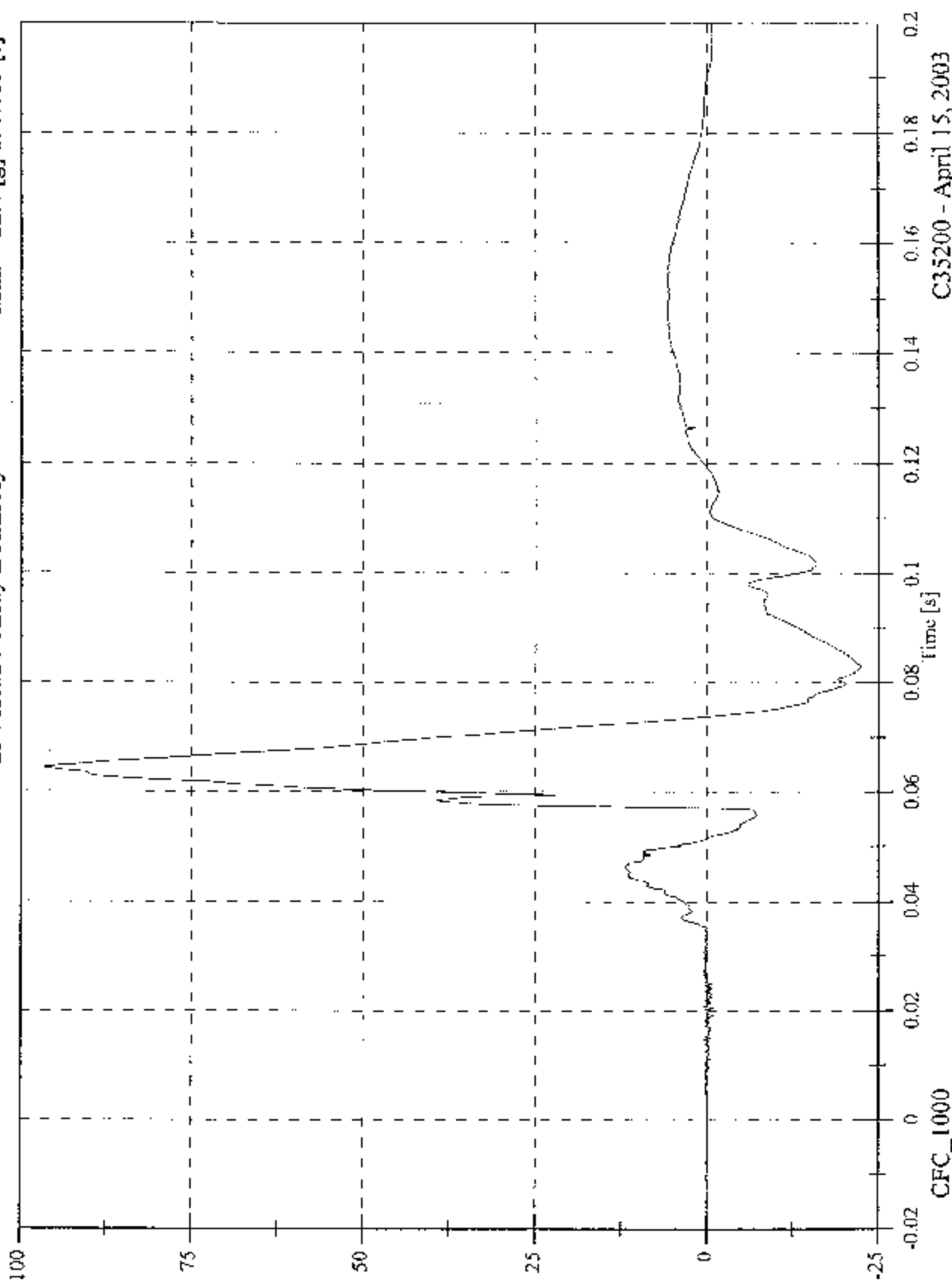
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 96.6 [g] at 0.065 [s]

Min: -22.4 [g] at 0.083 [s]

V2P4 Head 9 Array Z Arm Ay

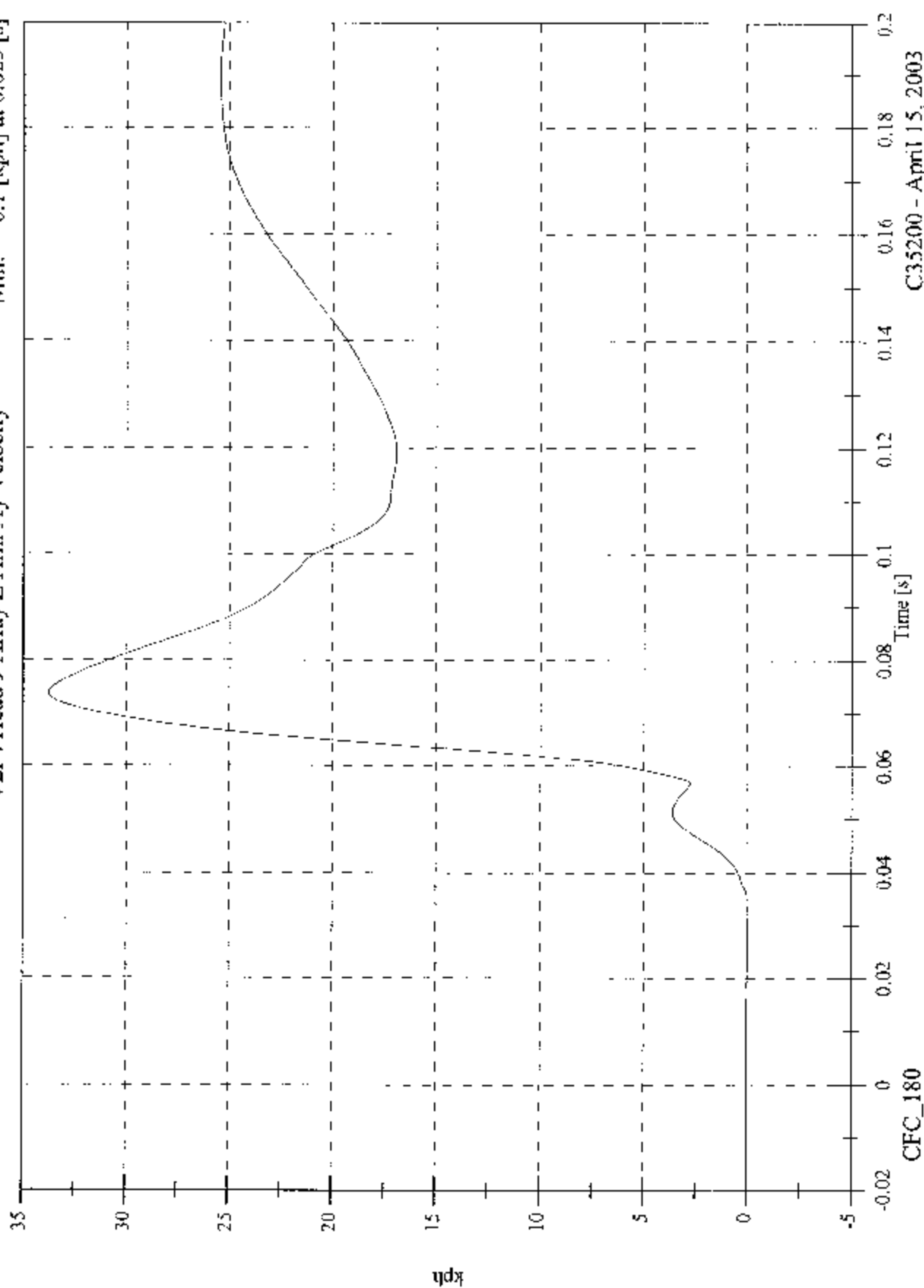


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head 9 Array Z Arm Ay Velocity

Max: 33.8 [kph] at 0.074 [s]
Min: -0.1 [kph] at 0.025 [s]

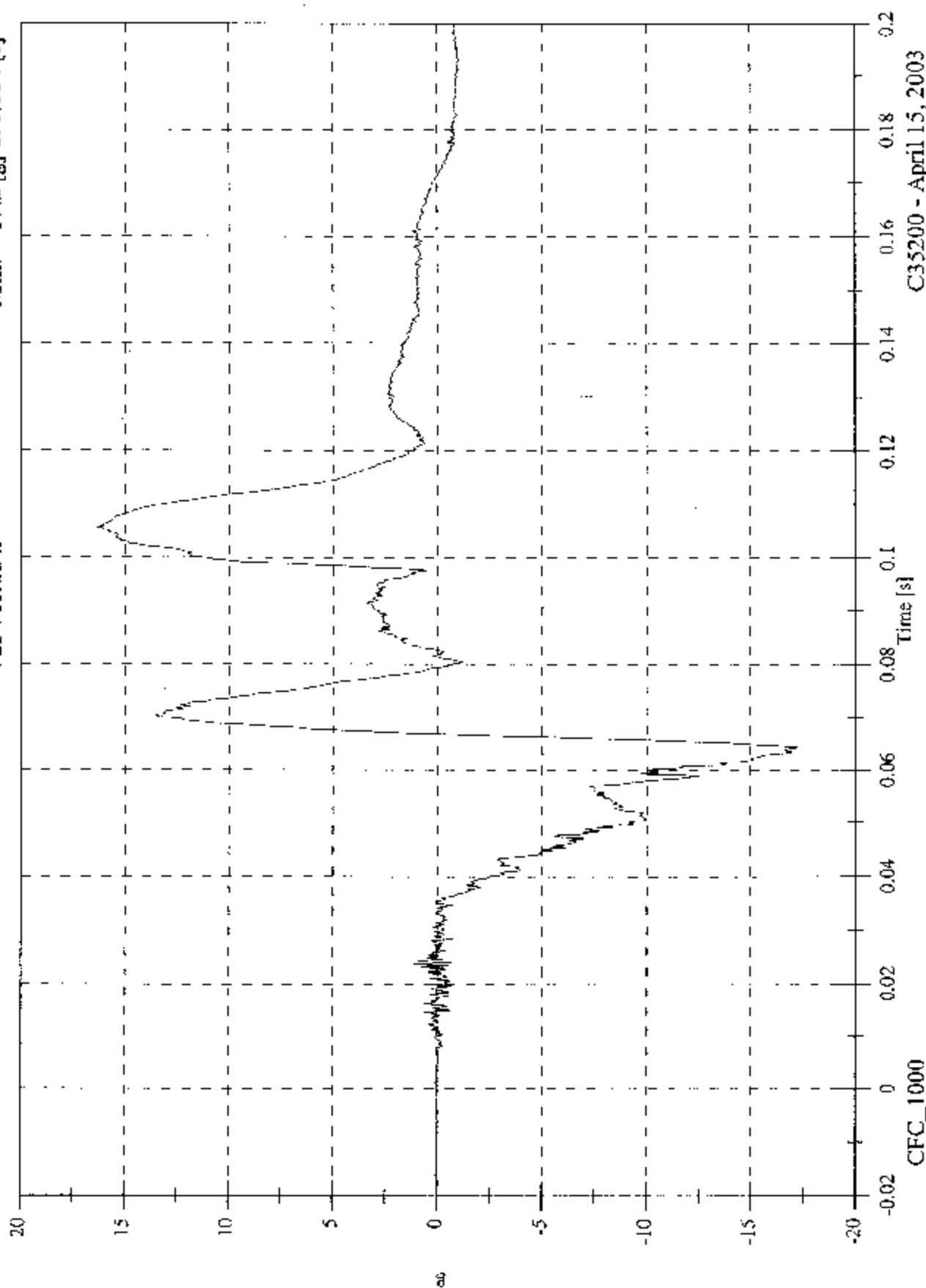


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 16.3 [g] at 0.106 [s]
Min: -17.2 [g] at 0.064 [s]

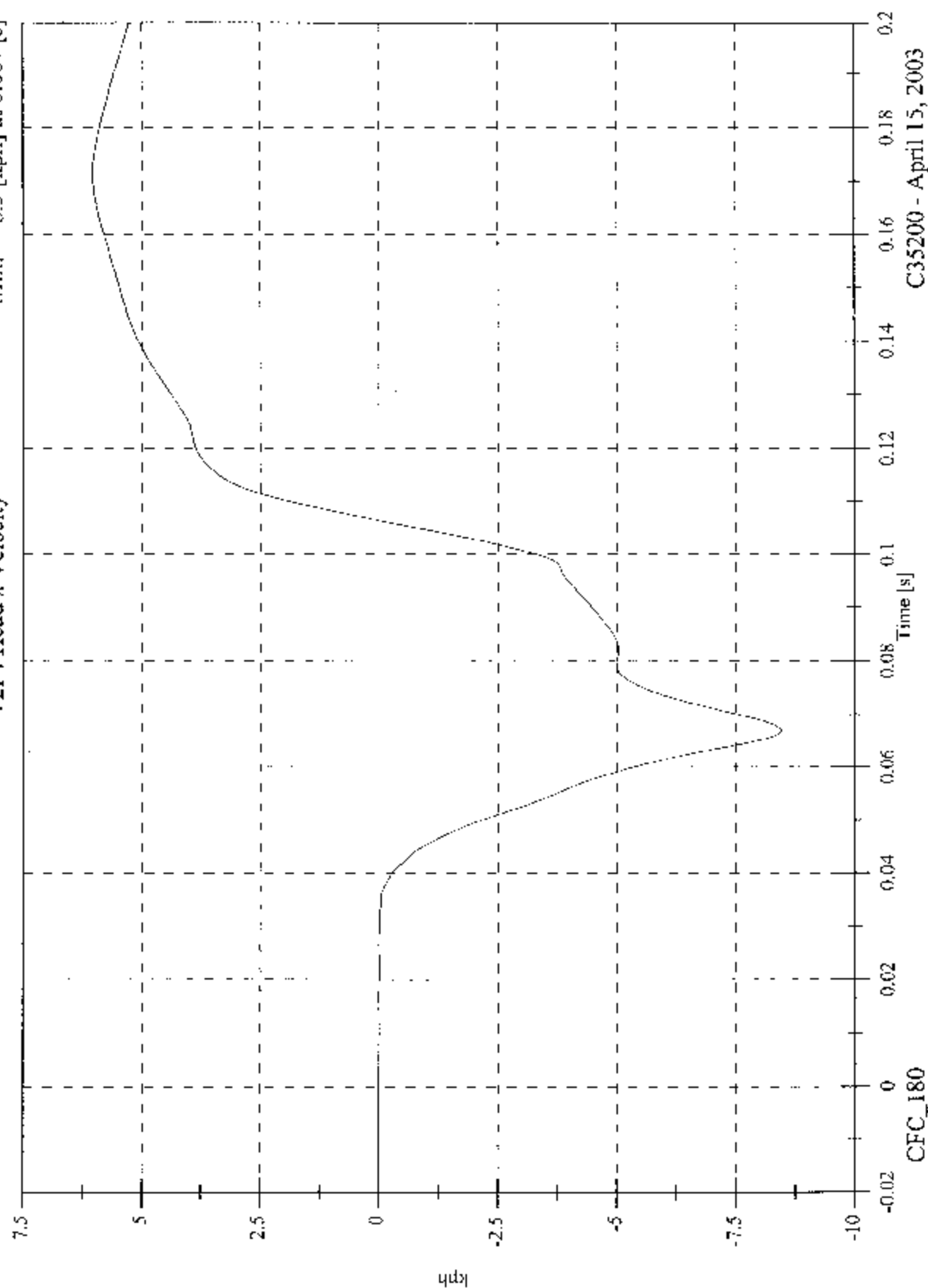
V2P4 Head x



C35200 - April 15, 2003

Max: 6.0 [kph] at 0.171 [s]
Min: -8.5 [kph] at 0.067 [s]

V2P4 Head x Velocity

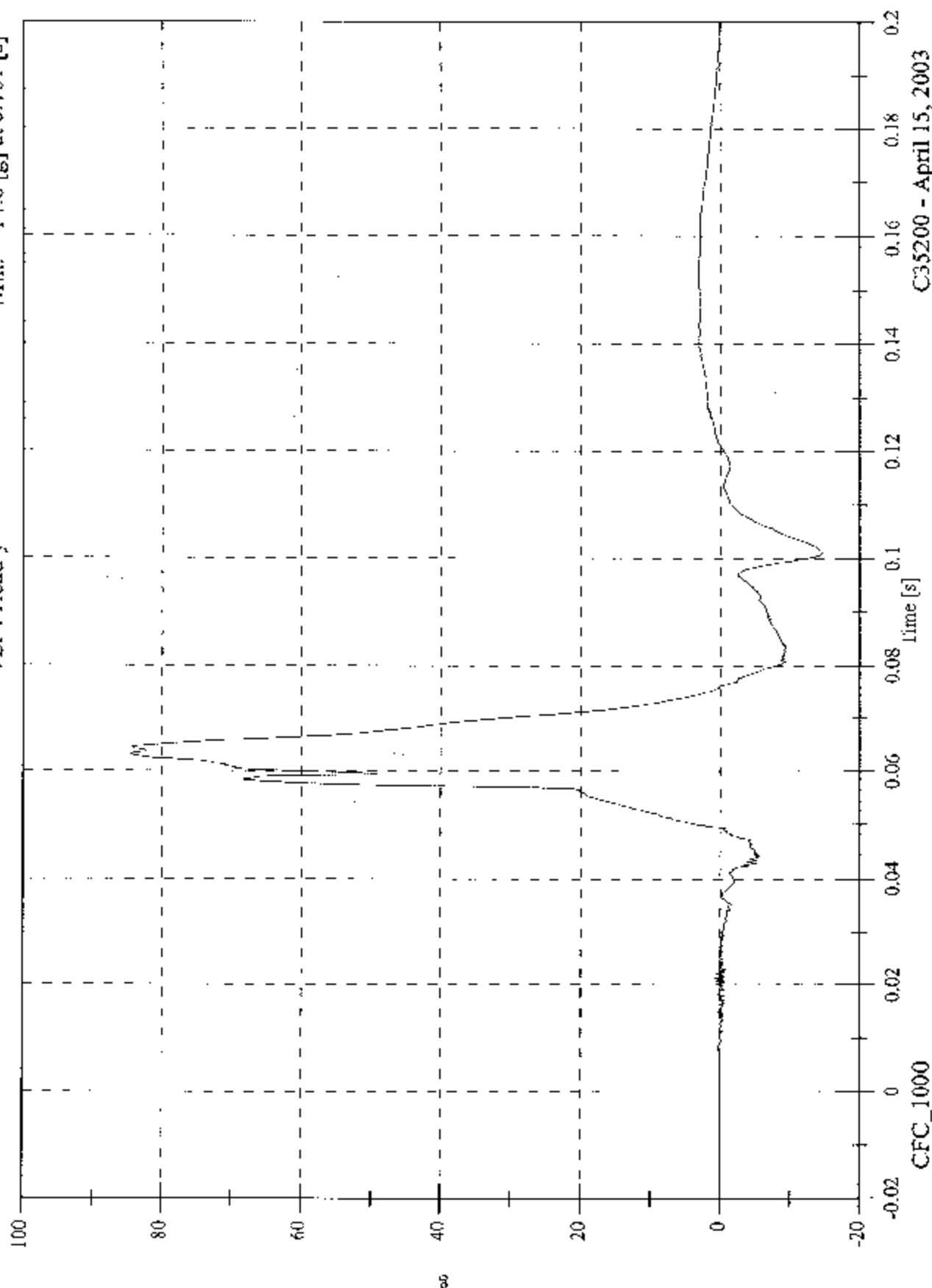


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 84.6 [g] at 0.063 [s]
Min: -14.6 [g] at 0.101 [s]

V2P4 Head y

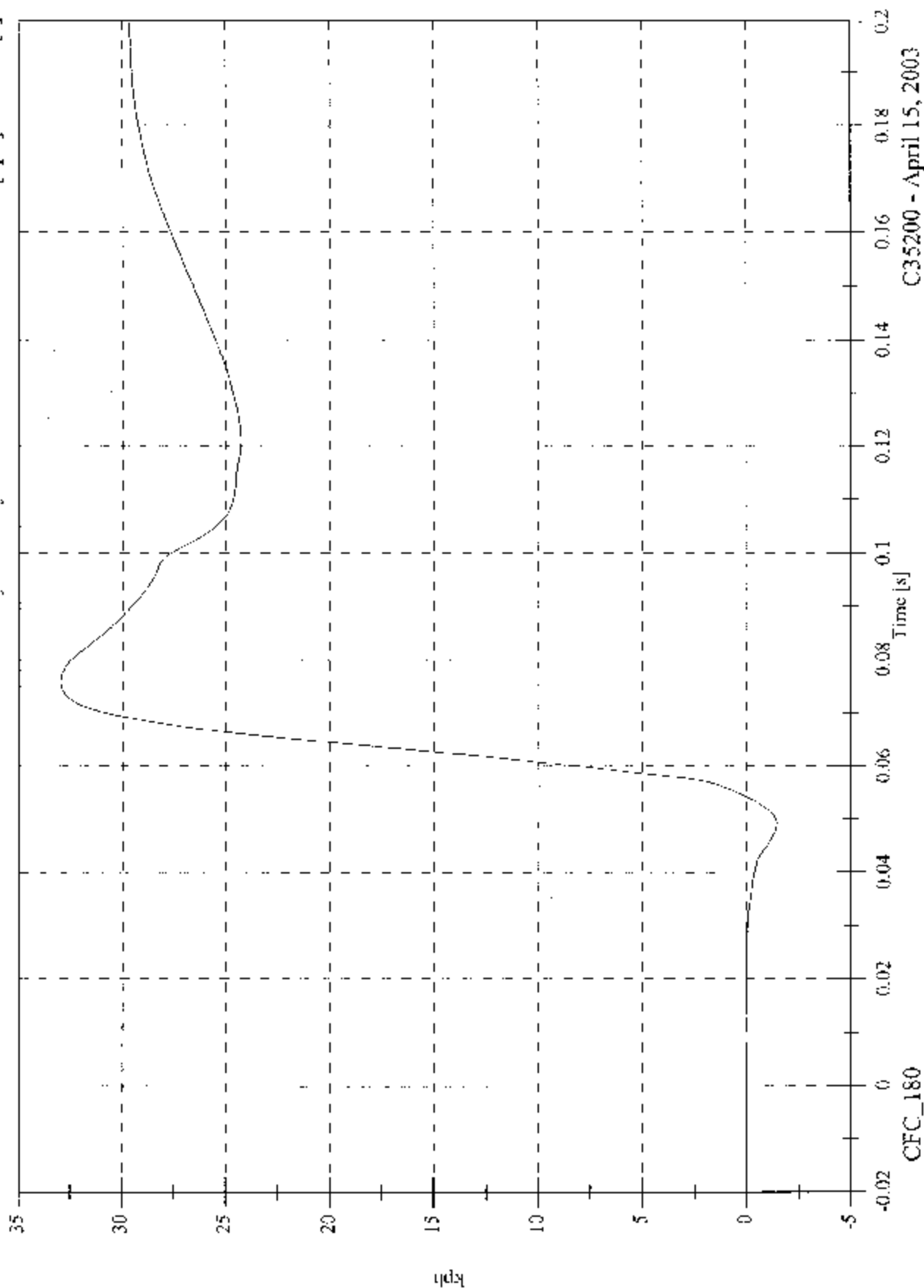


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 33.0 [kph] at 0.076 [s]
 Min: -1.4 [kph] at 0.049 [s]

V2P4 Head y Velocity

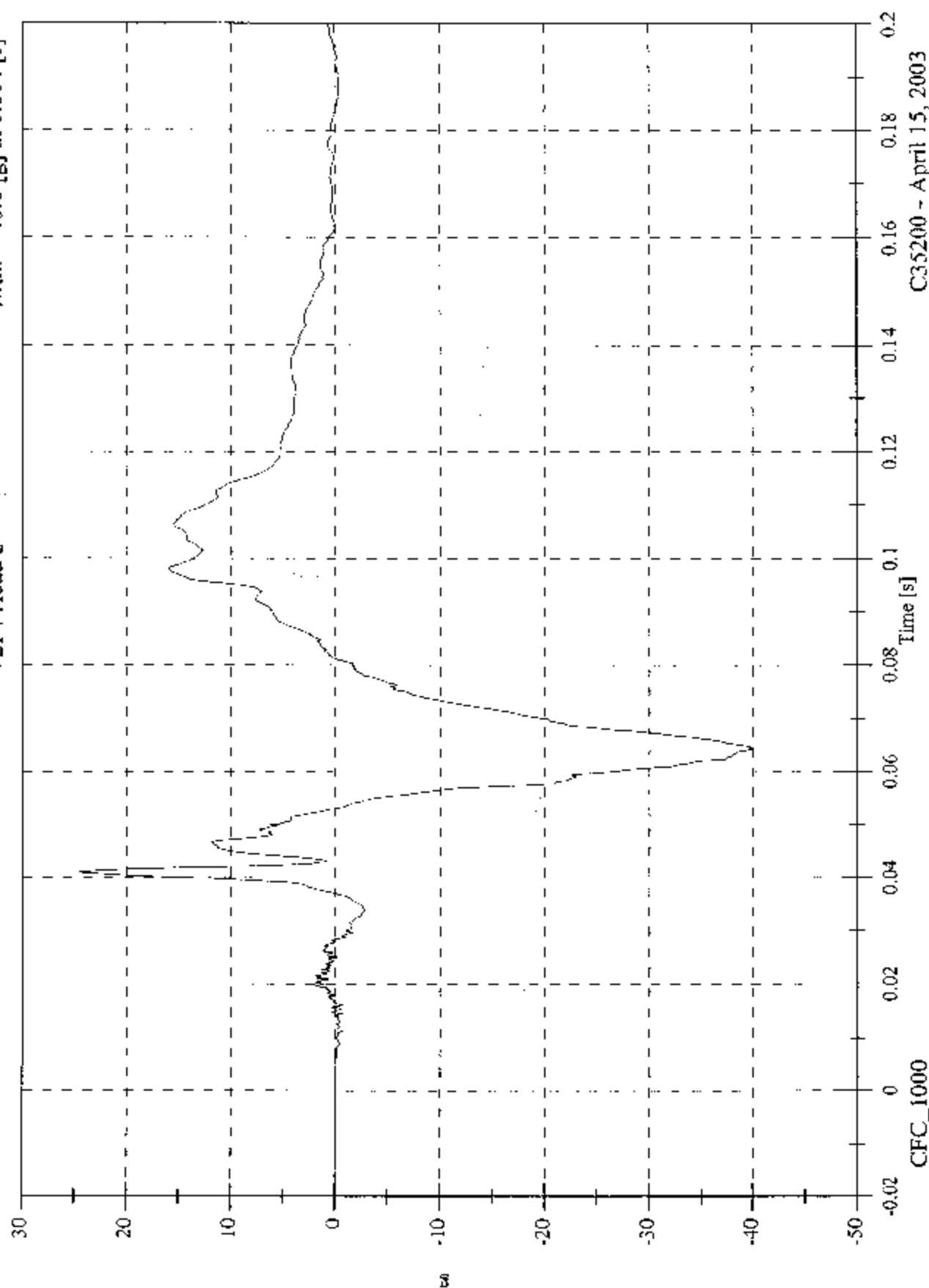


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head z

Max: 24.6 [g] at 0.041 [s]
Min: -40.0 [g] at 0.064 [s]

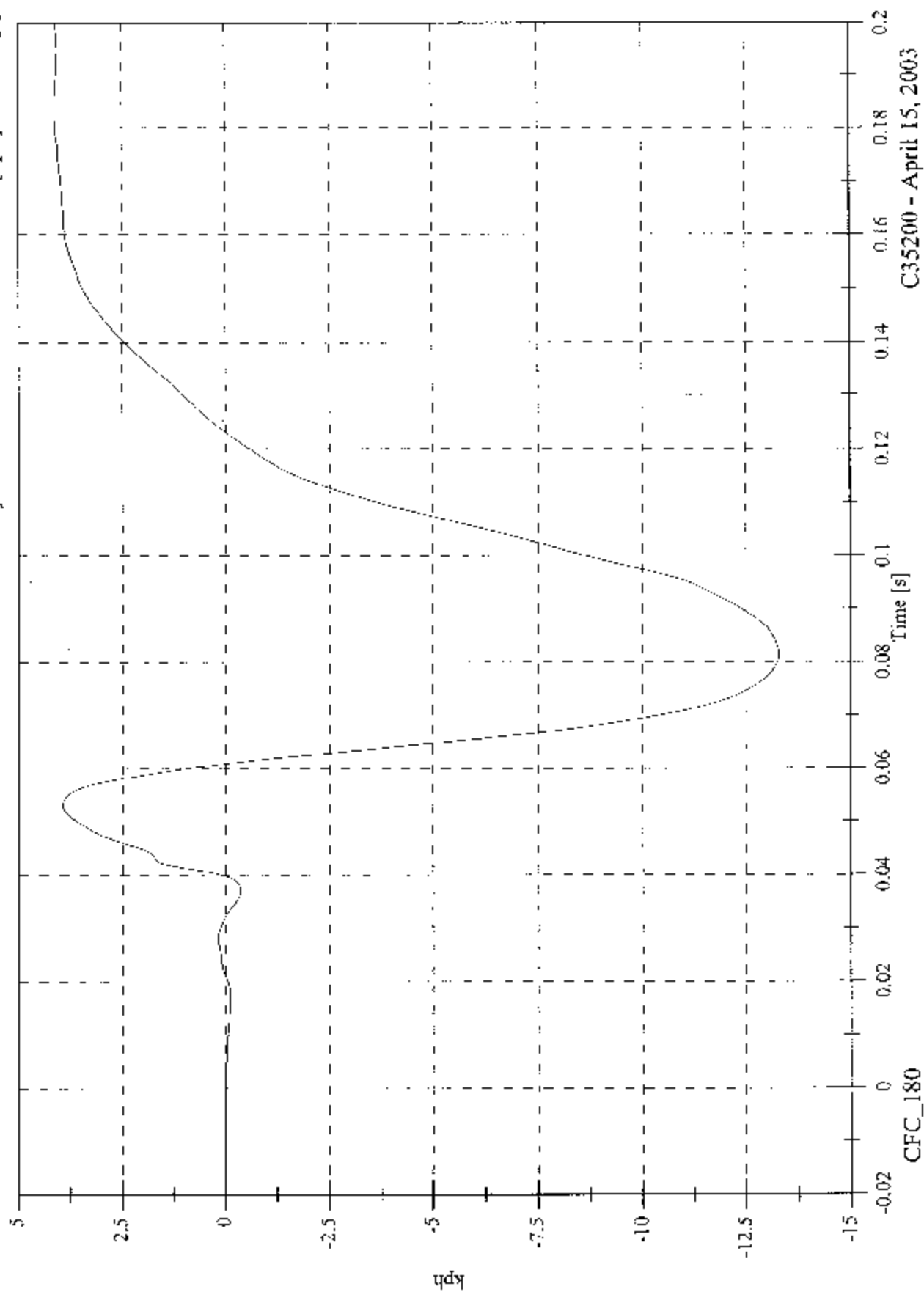


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Head z Velocity

Max: 4.1 [kph] at 0.184 [s]
 Min: -13.3 [kph] at 0.081 [s]

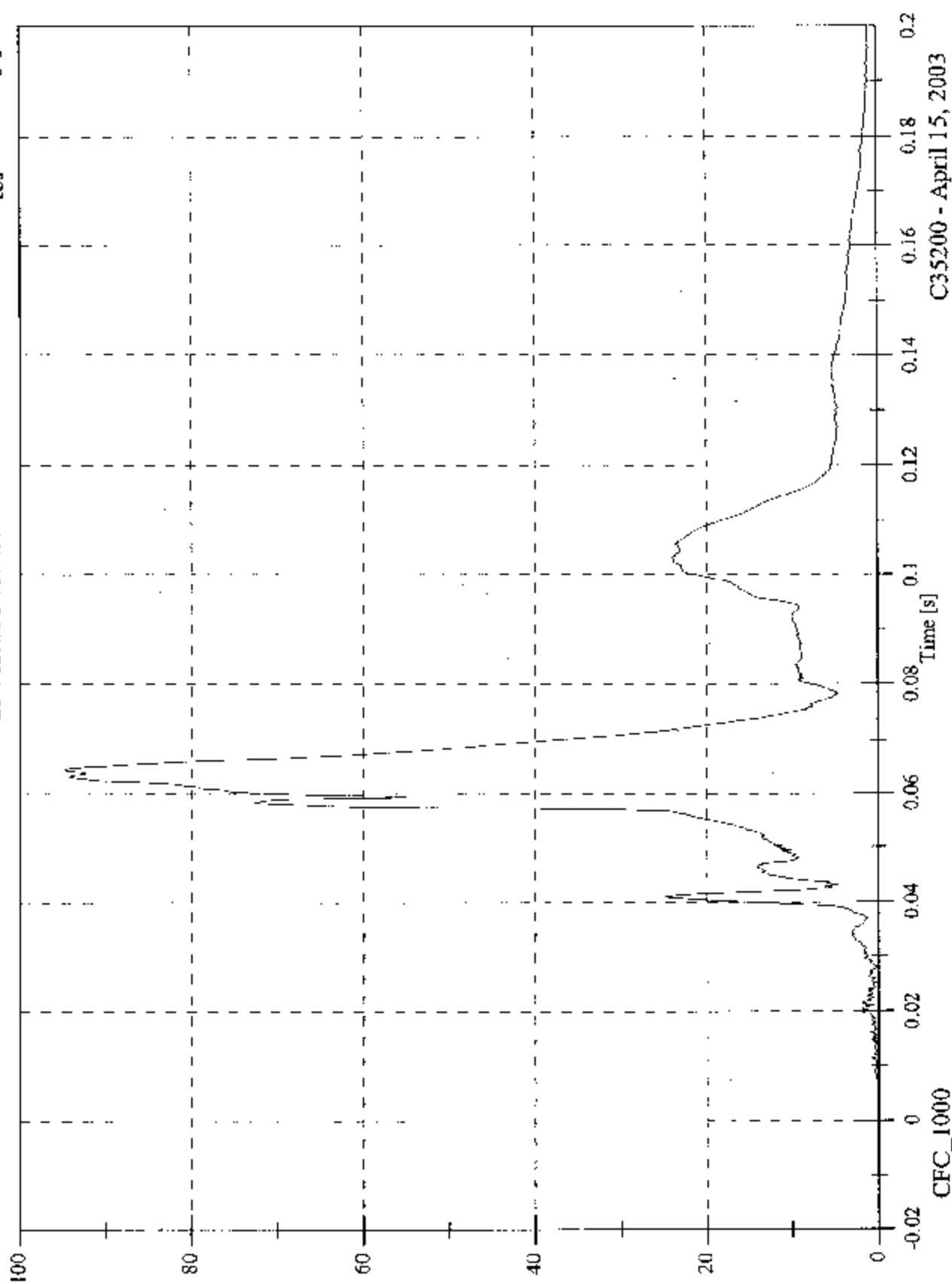


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 94.8 [g] at 0.064 [s]
Min: 0.0 [g] at 0.004 [s]

V2P4 Head Resultant



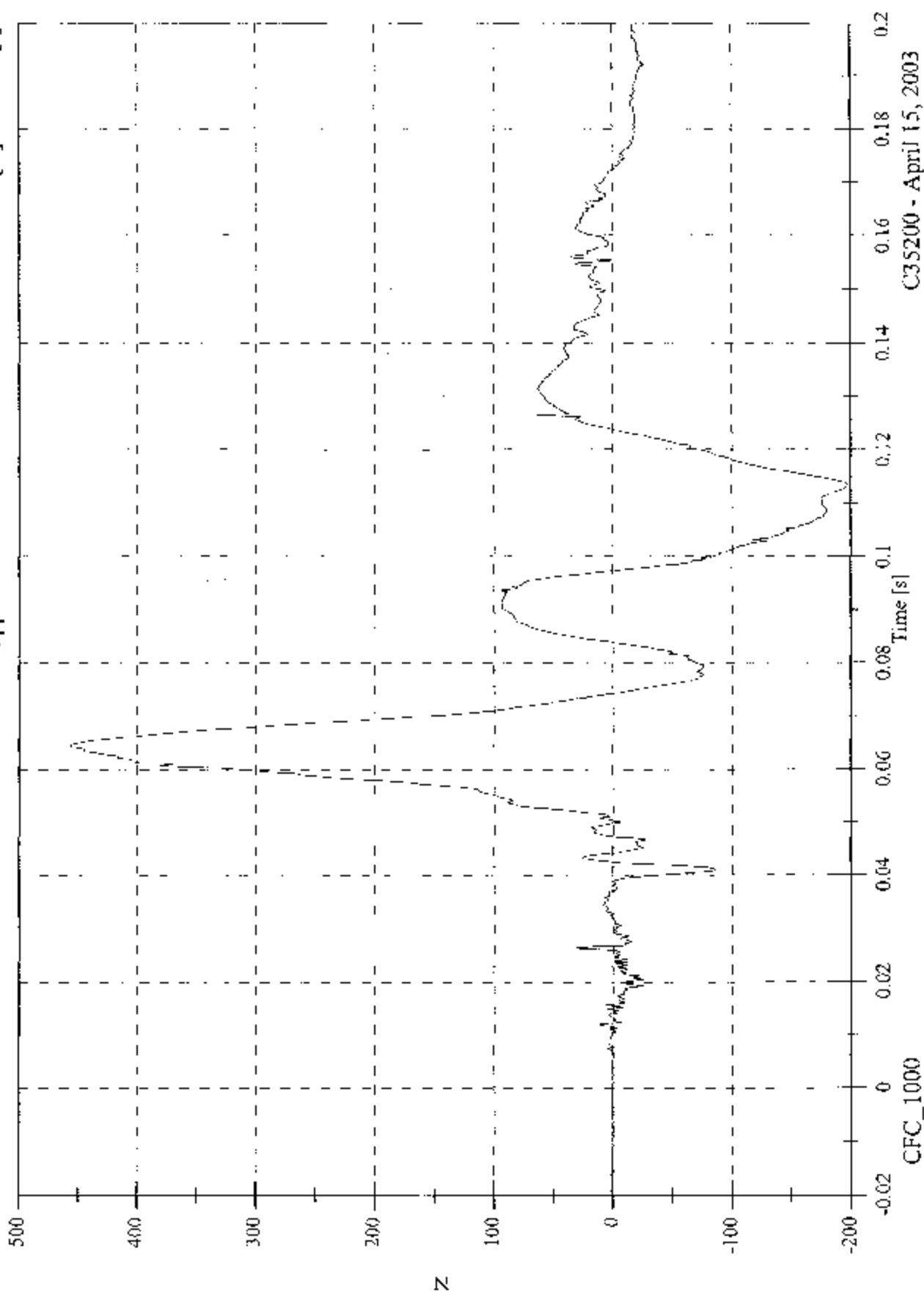
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 456.2 [N] at 0.064 [s]

Min: -196.8 [N] at 0.114 [s]

V2P4 Upper Neck Fx



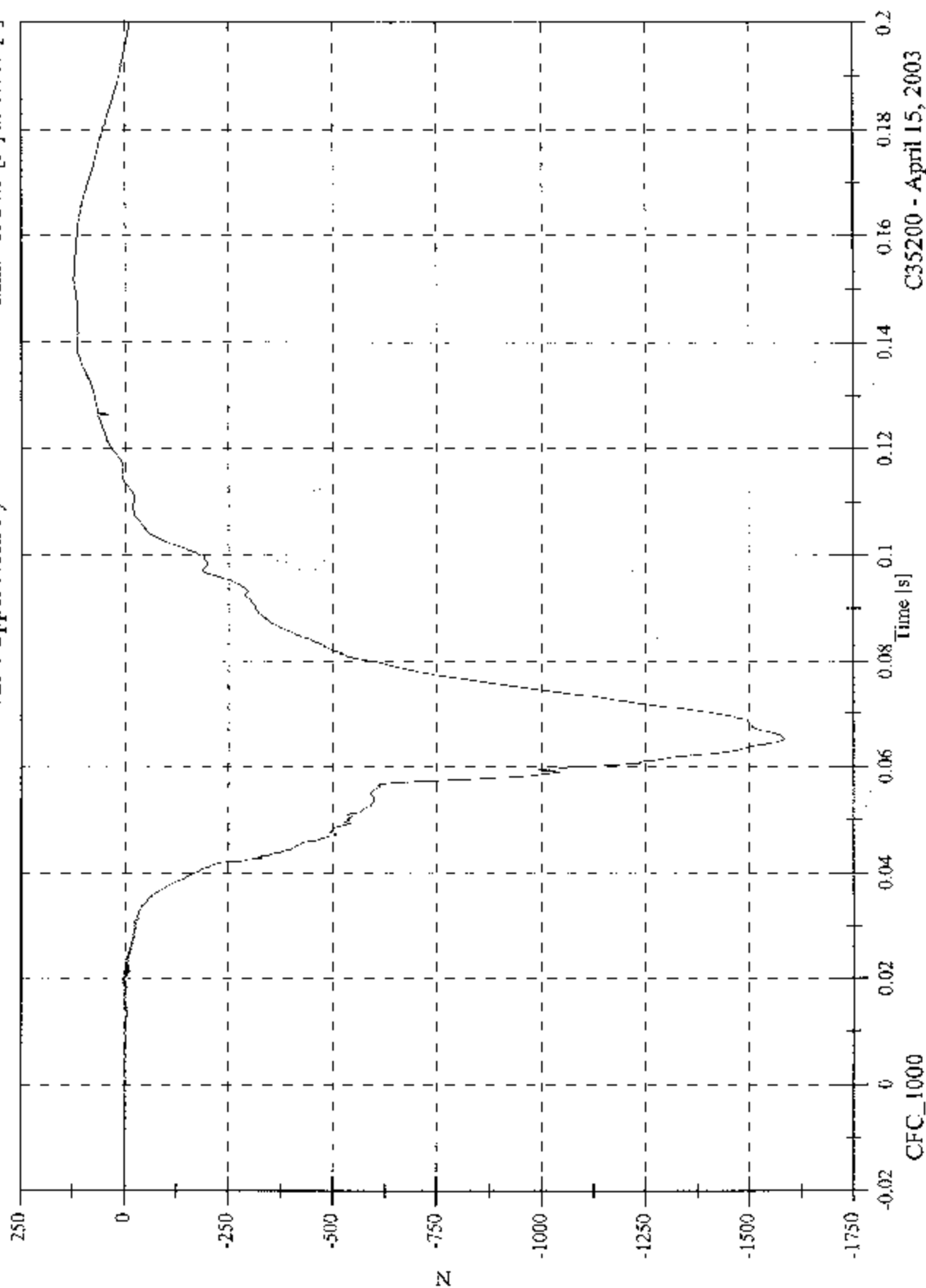
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 123.6 [N] at 0.152 [s]

Min: -1584.5 [N] at 0.065 [s]

V2P4 Upper Neck Fy

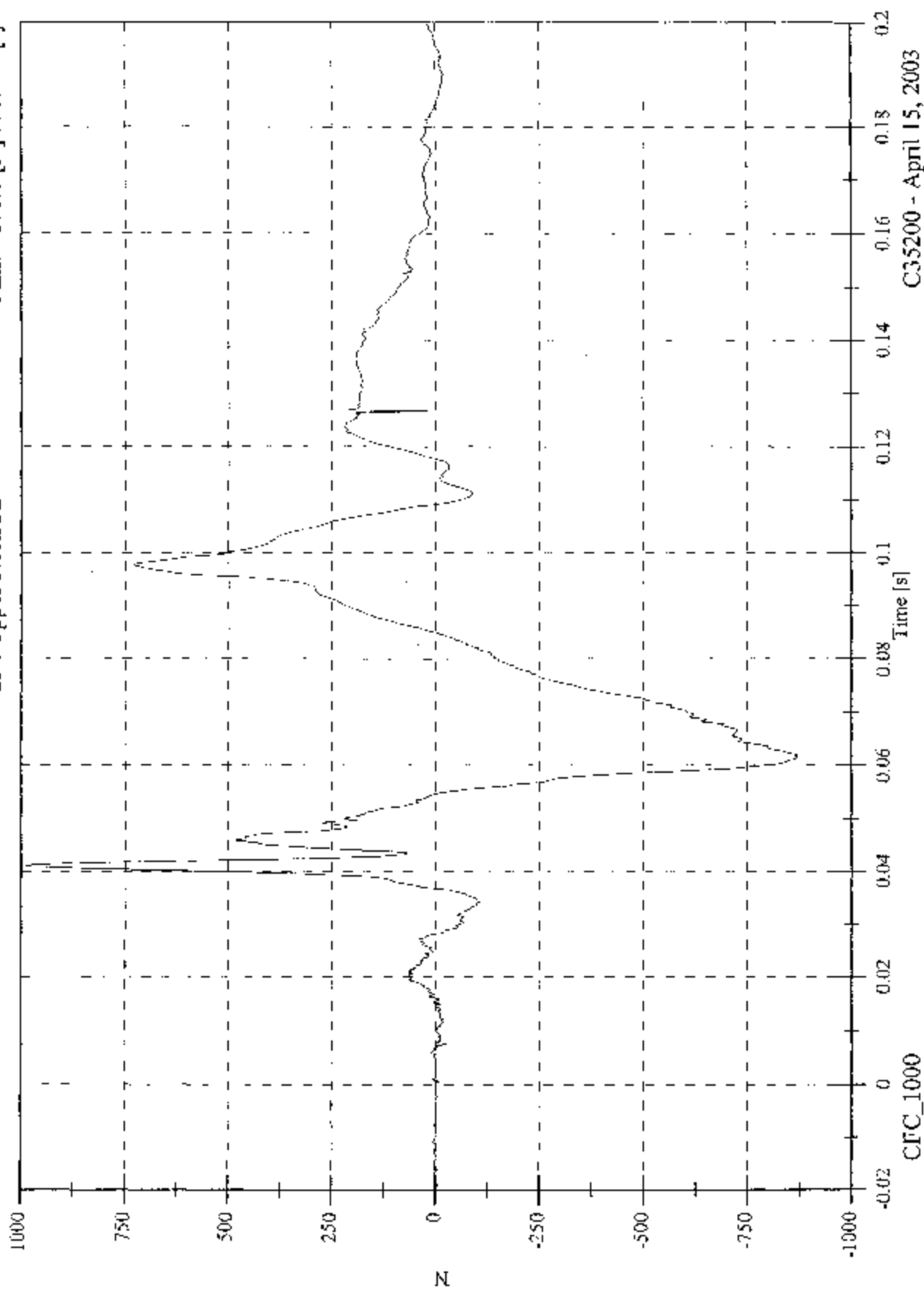


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 987.6 [N] at 0.041 [s]
Min: -870.8 [N] at 0.062 [s]

V2P4 Upper Neck Fz

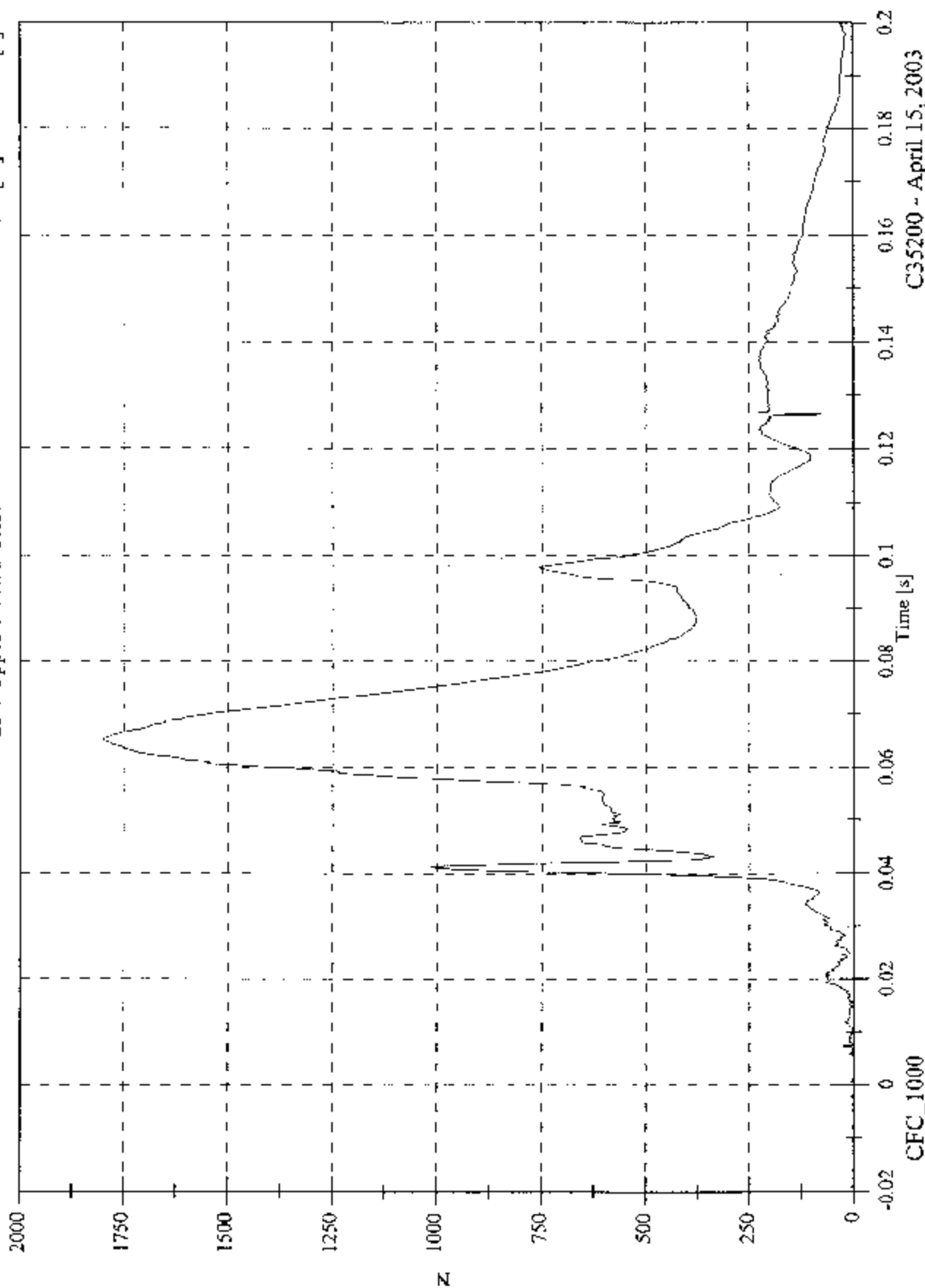


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 1800.3 [N] at 0.065 [s]
Min: 0.1 [N] at -0.013 [s]

V2P4 Upper Neck F Resultant



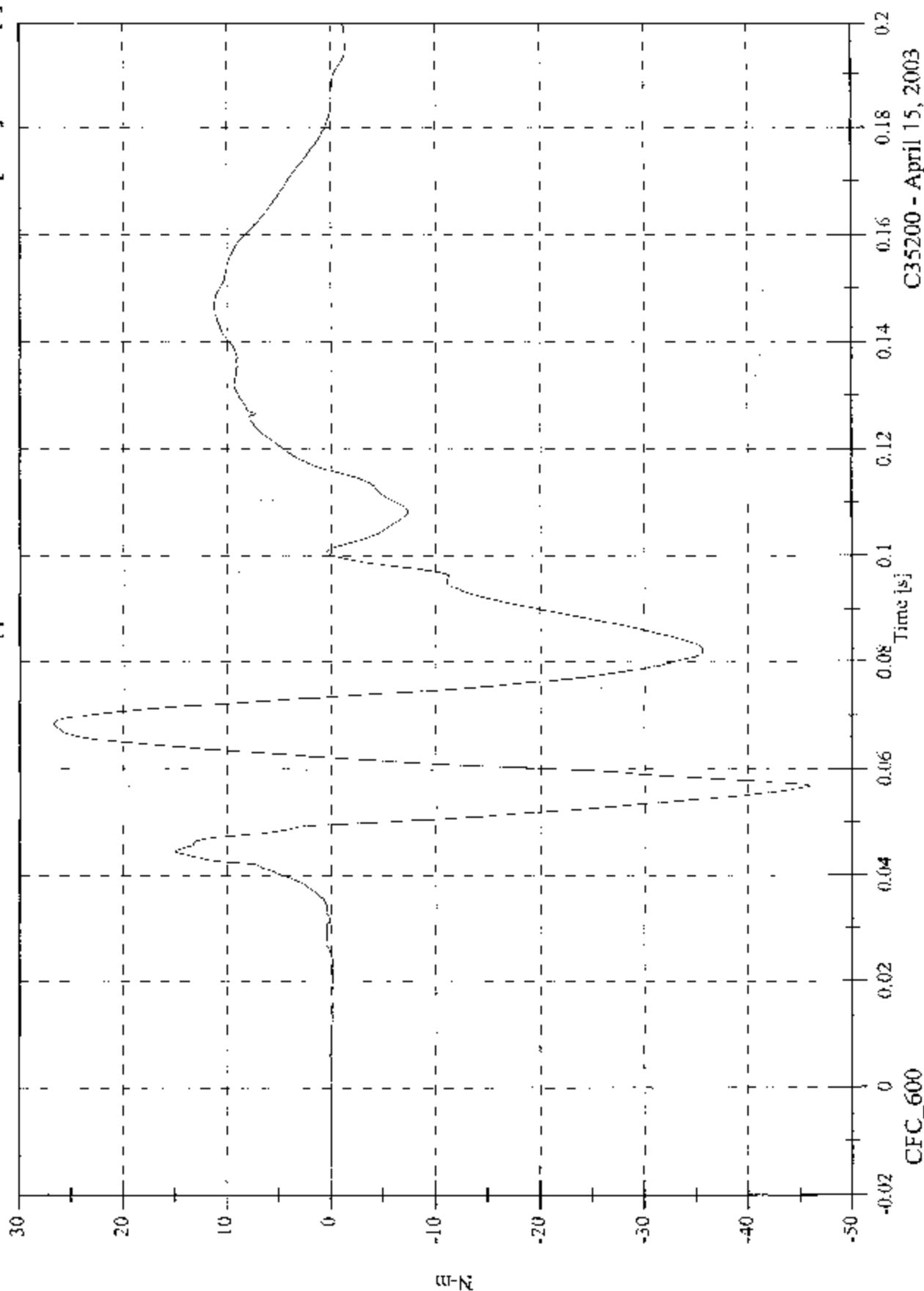
CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 26.7 [N-m] at 0.068 [s]
Min: -45.9 [N-m] at 0.057 [s]

V2P4 Upper Neck Mx

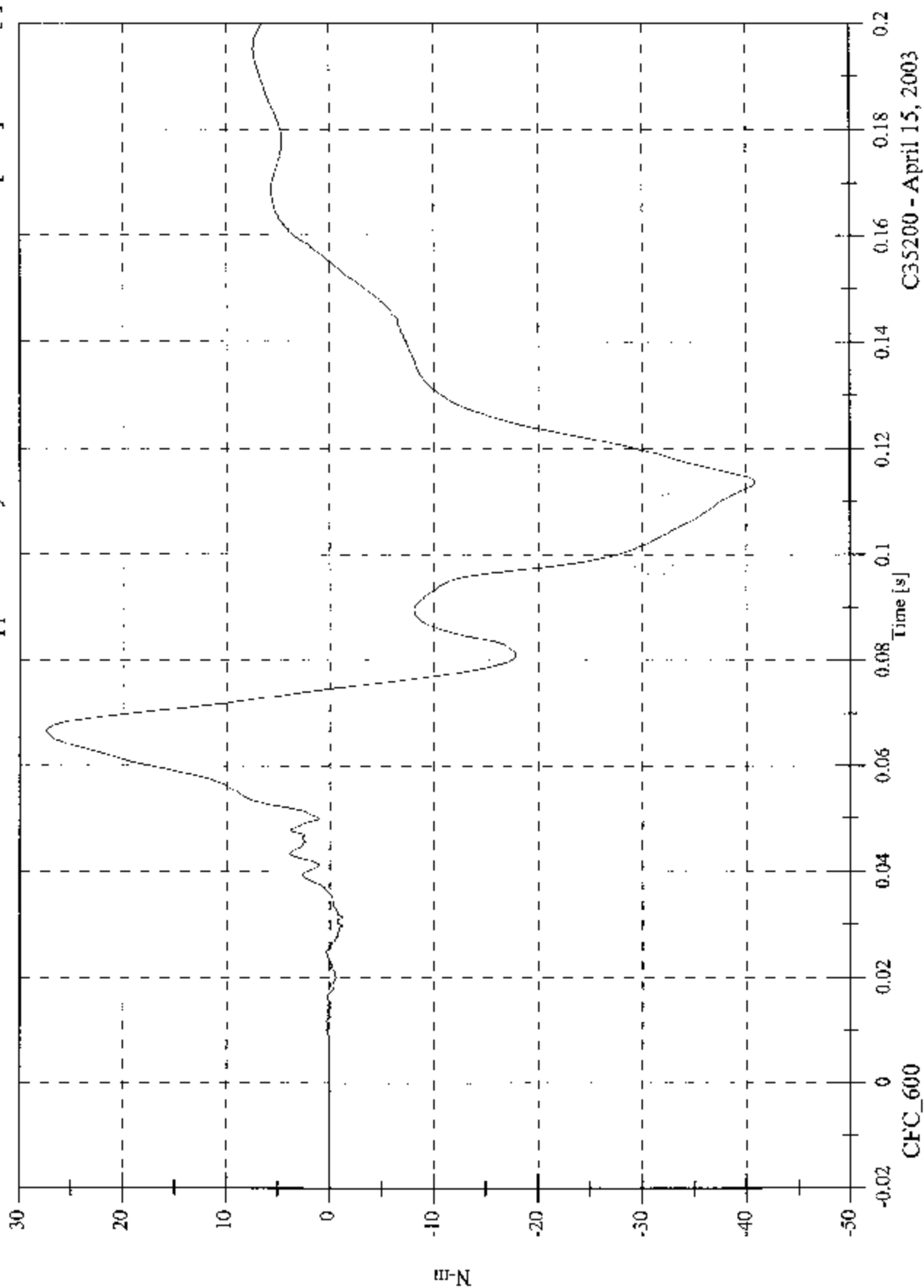


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Neck My

Max: 27.5 [N-m] at 0.067 [s]
Min: -40.8 [N-m] at 0.114 [s]

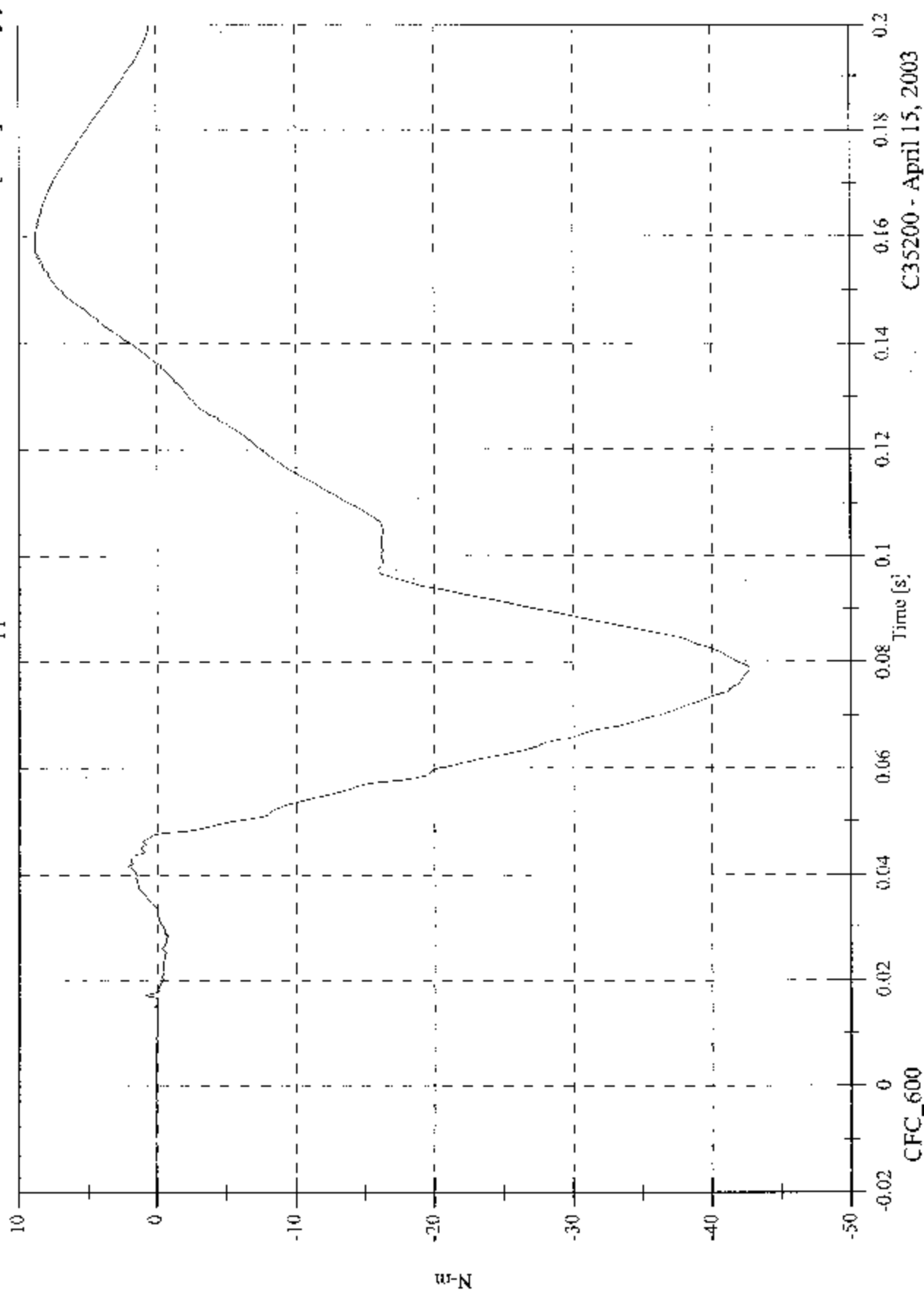


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Neck Mz

Max: 8.9 [N-m] at 0.159 [s]
Min: -42.7 [N-m] at 0.079 [s]



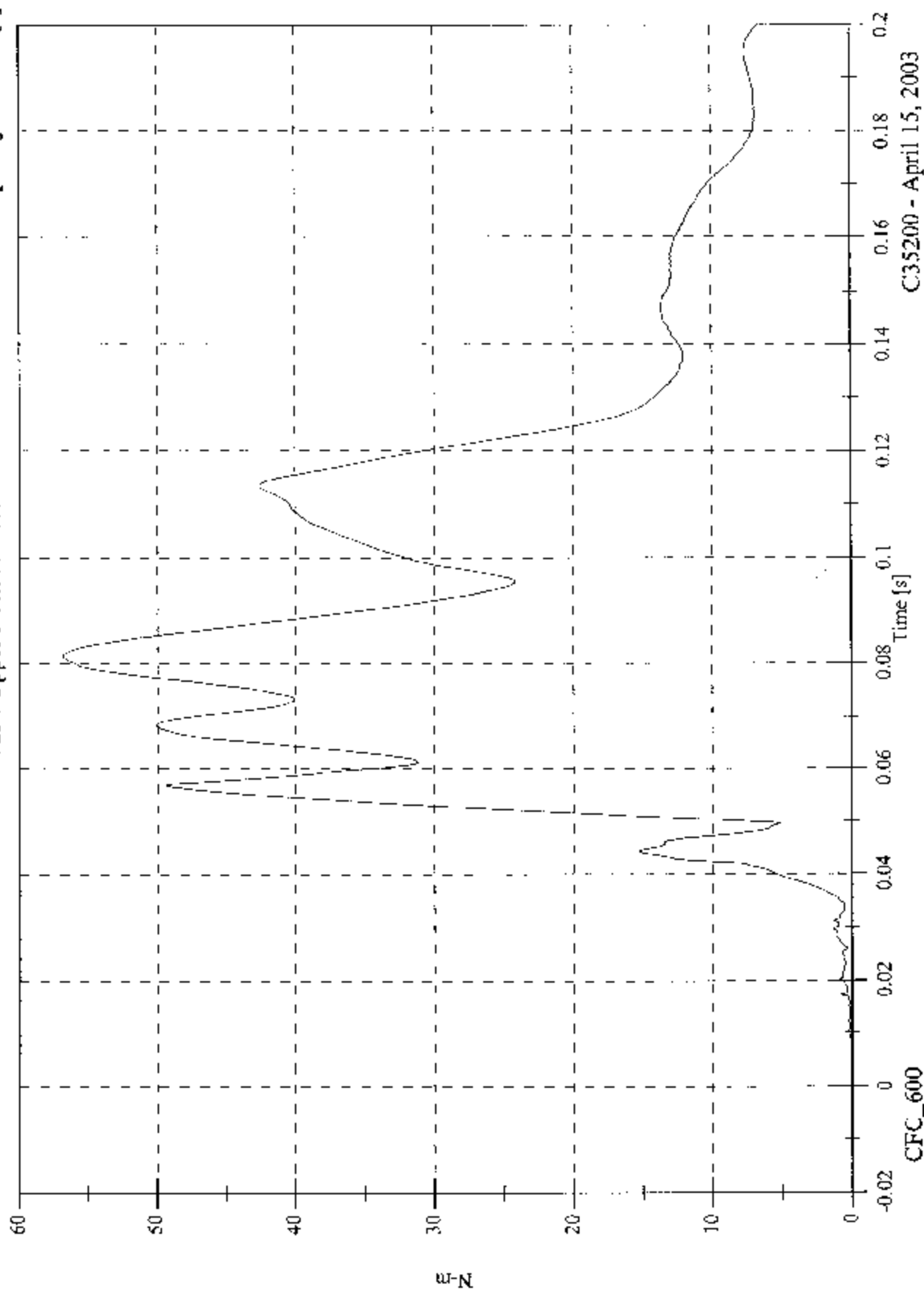
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 56.9 [N-m] at 0.081 [s]

Min: 0.0 [N-m] at -0.020 [s]

V2P4 Upper Neck M Resultant



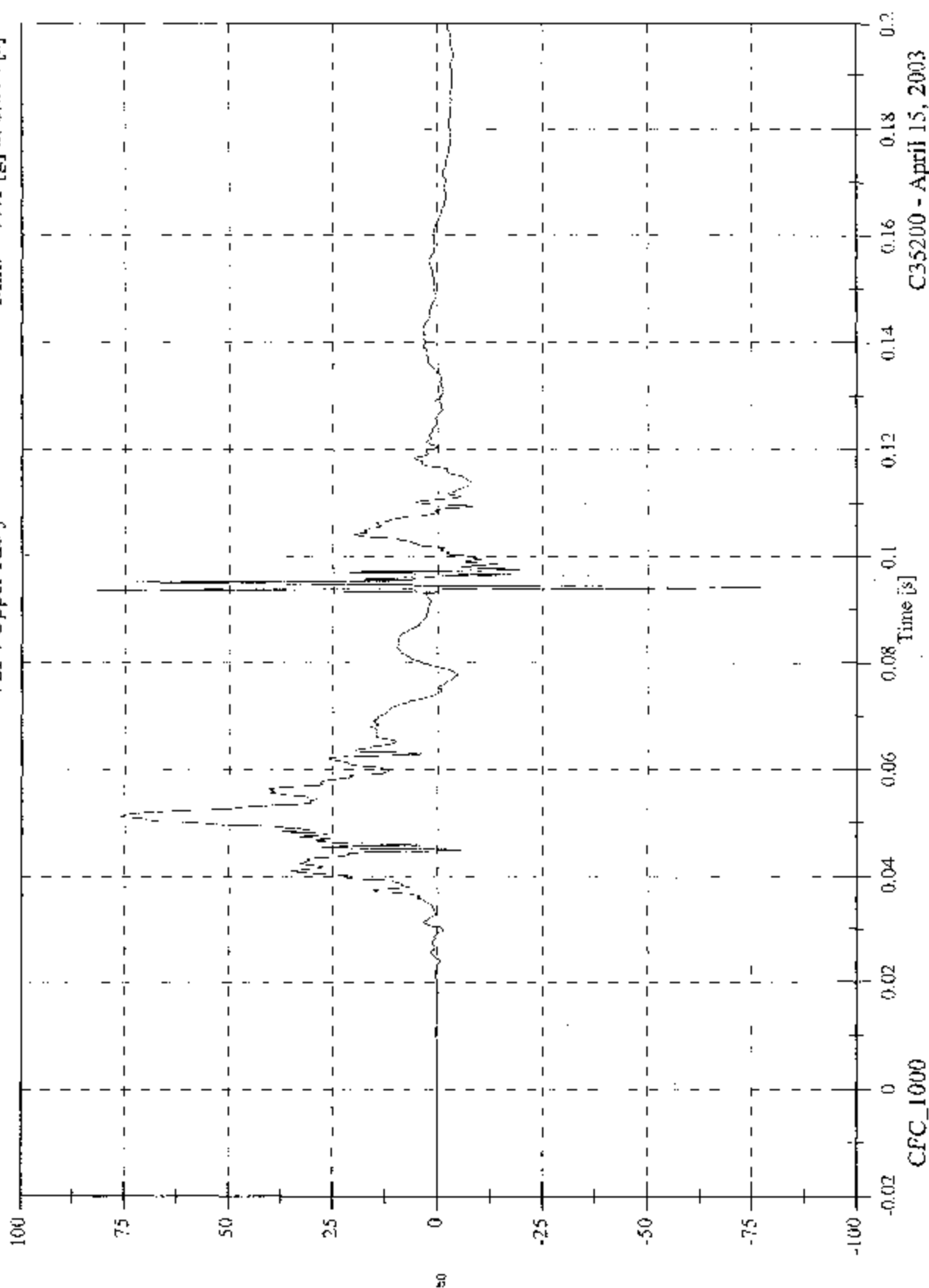
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib y

Max: 87.4 [g] at 0.094 [s]

Min: -77.1 [g] at 0.094 [s]



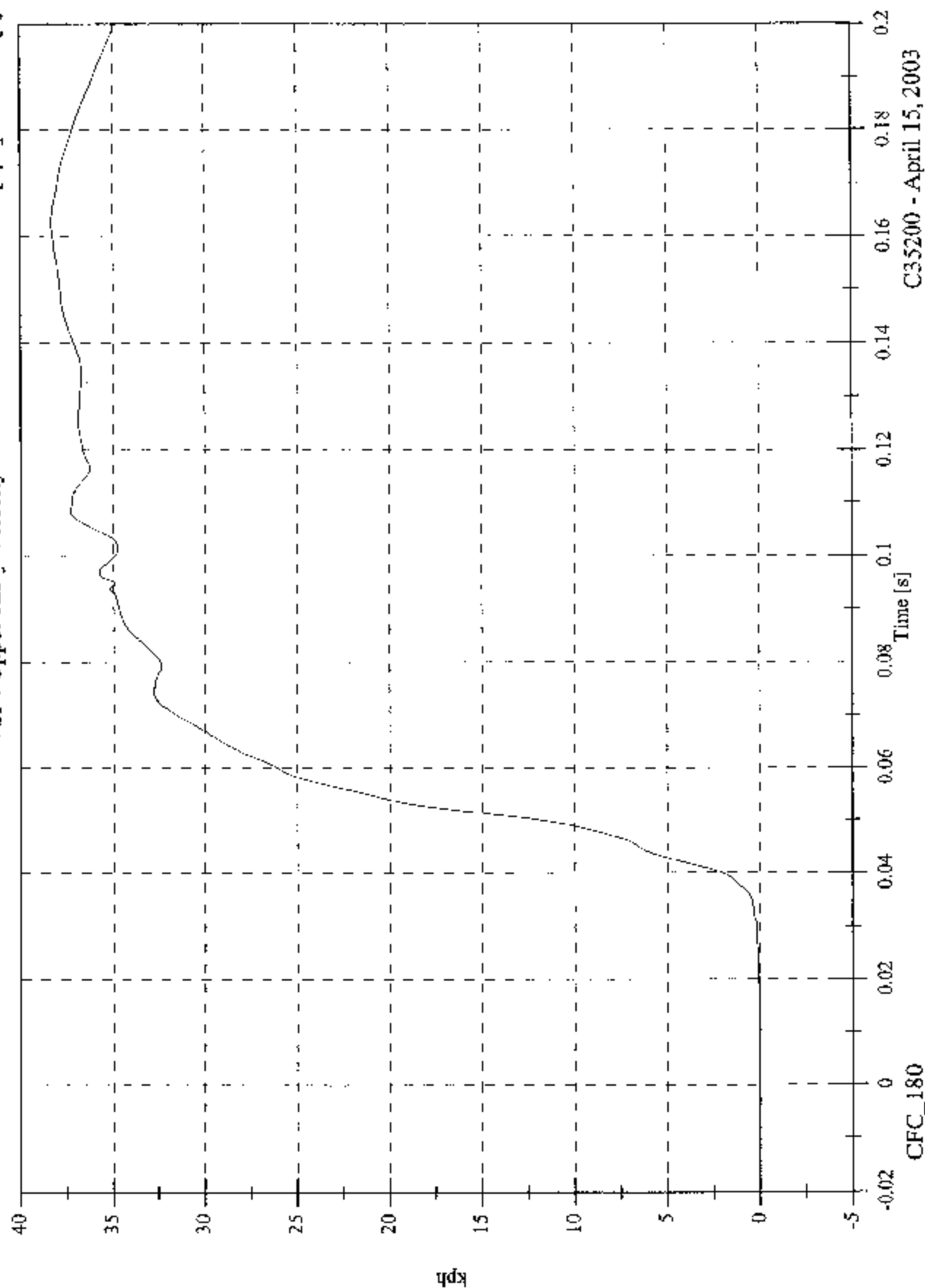
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 38.3 [kph] at 0.163 [s]

Min: -0.0 [kph] at -0.003 [s]

V2P4 Upper Rib y Velocity



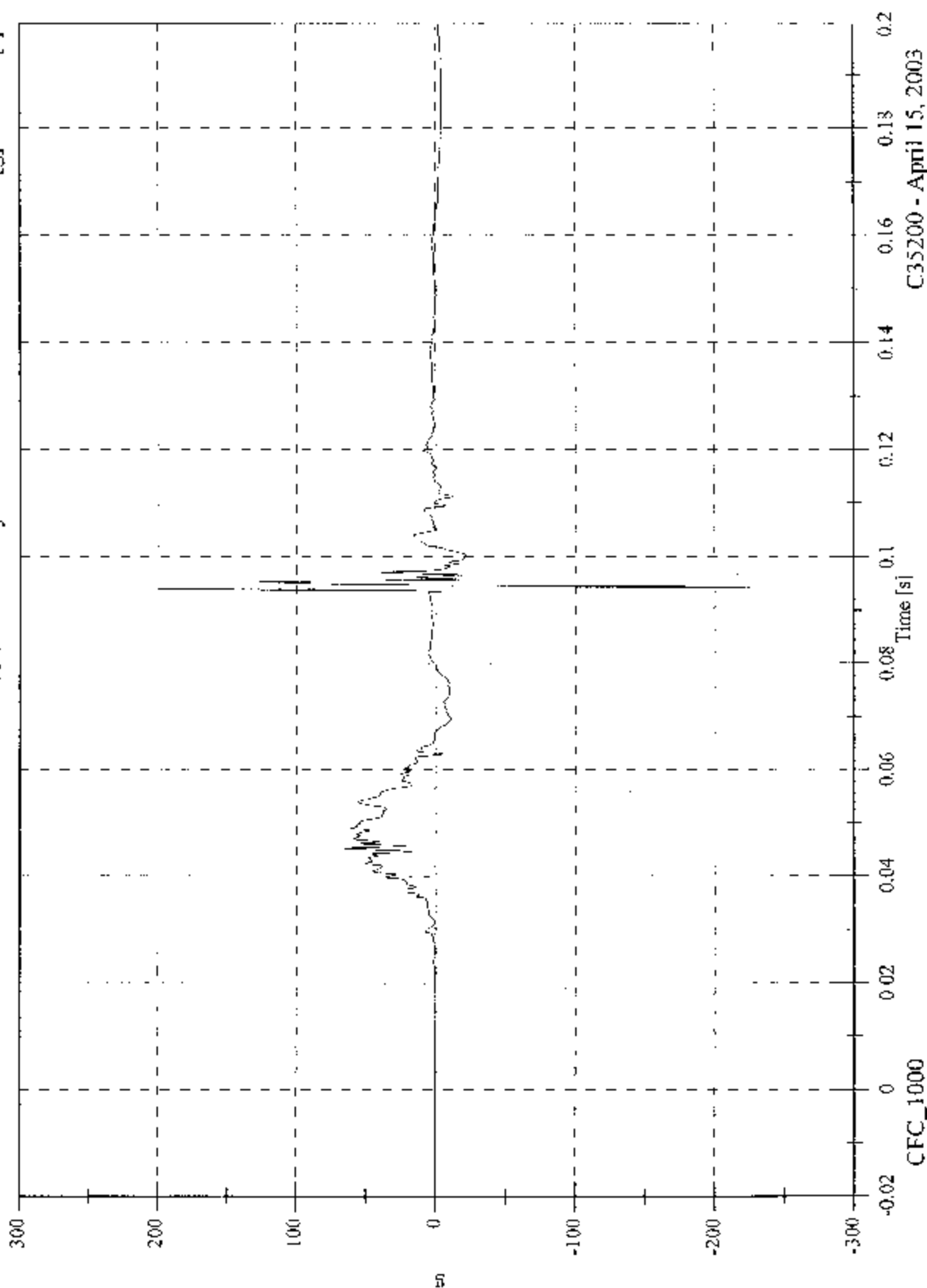
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Rib y

Max: 200.3 [g] at 0.094 [s]
Min: -229.1 [g] at 0.094 [s]



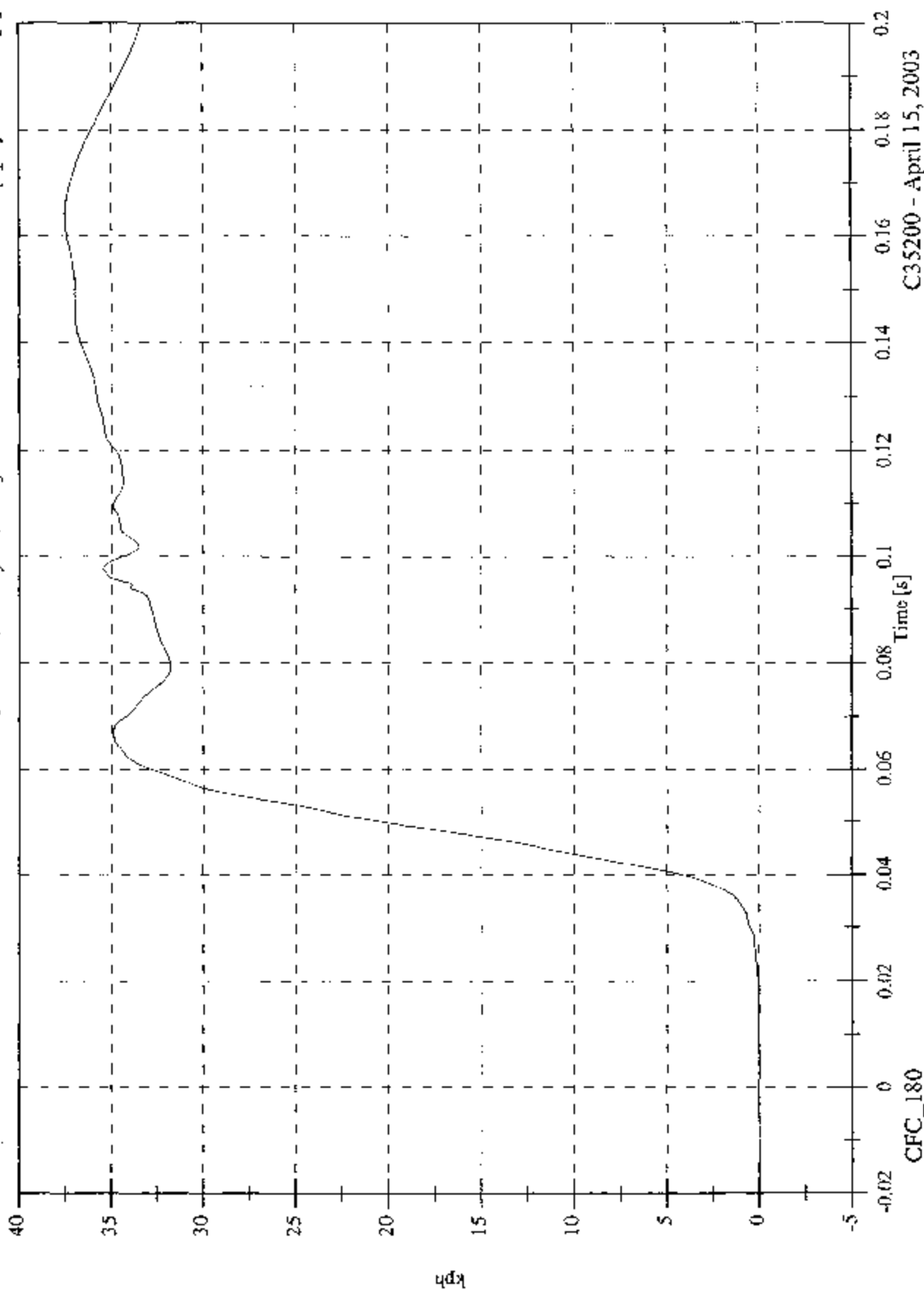
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Rib y Velocity

Max: 37.5 [kph] at 0.164 [s]

Min: -0.0 [kph] at -0.019 [s]



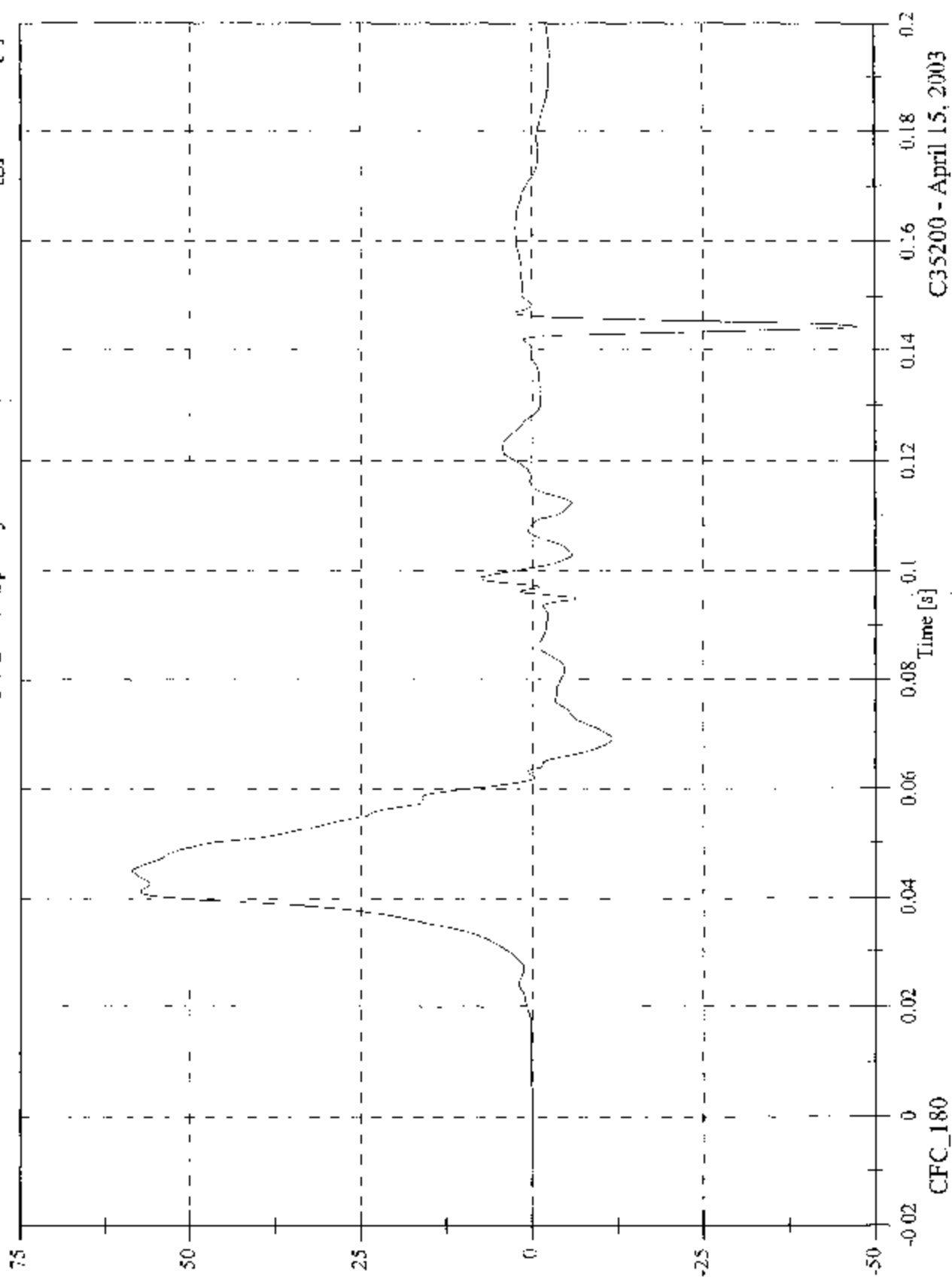
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Spine y

Max: 58.7 [g] at 0.045 [s]

Min: -47.5 [g] at 0.144 [s]



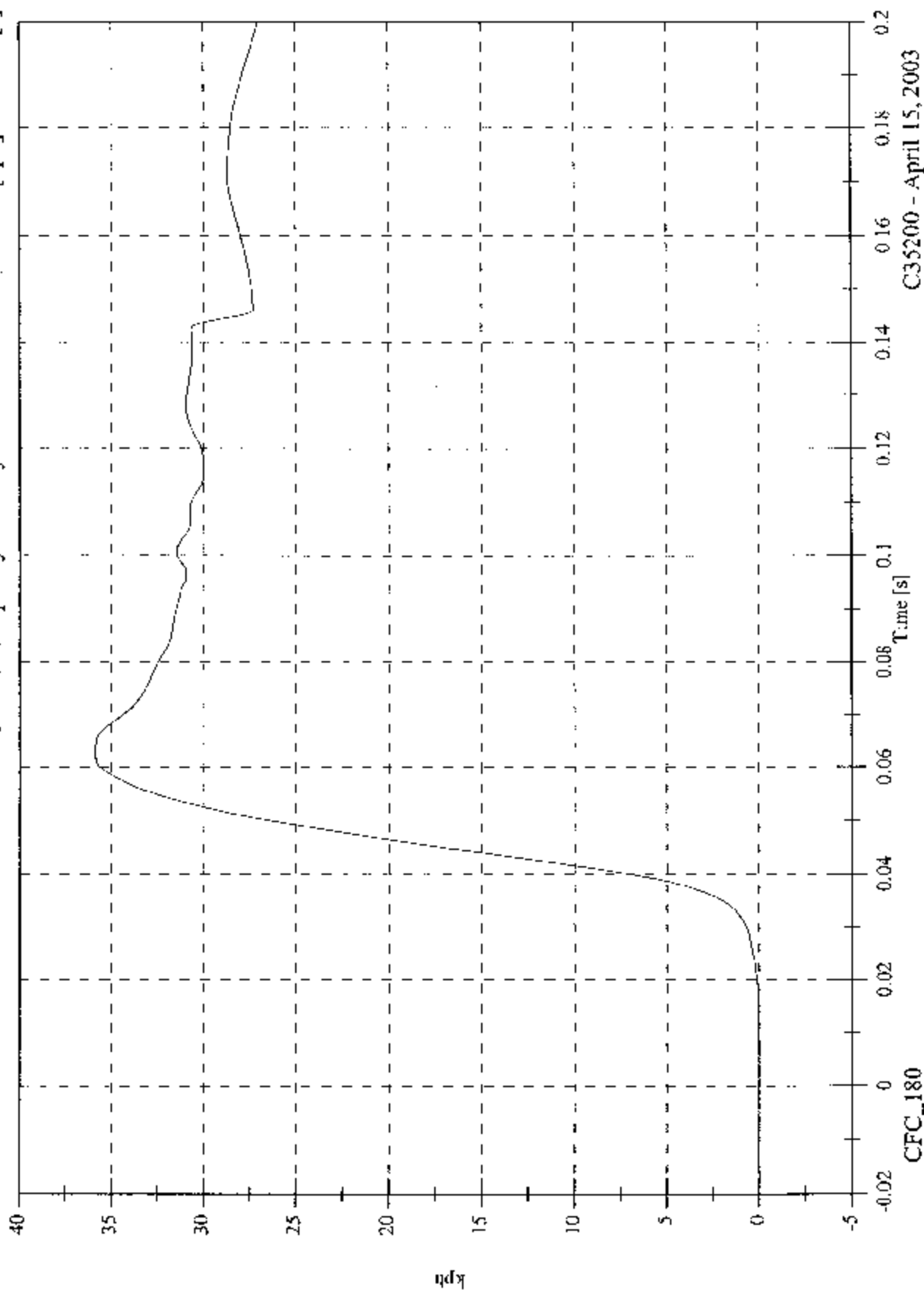
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 35.9 [kph] at 0.063 [s]

Min: -0.0 [kph] at -0.019 [s]

V2P4 Lower Spine y Velocity



CFC_180

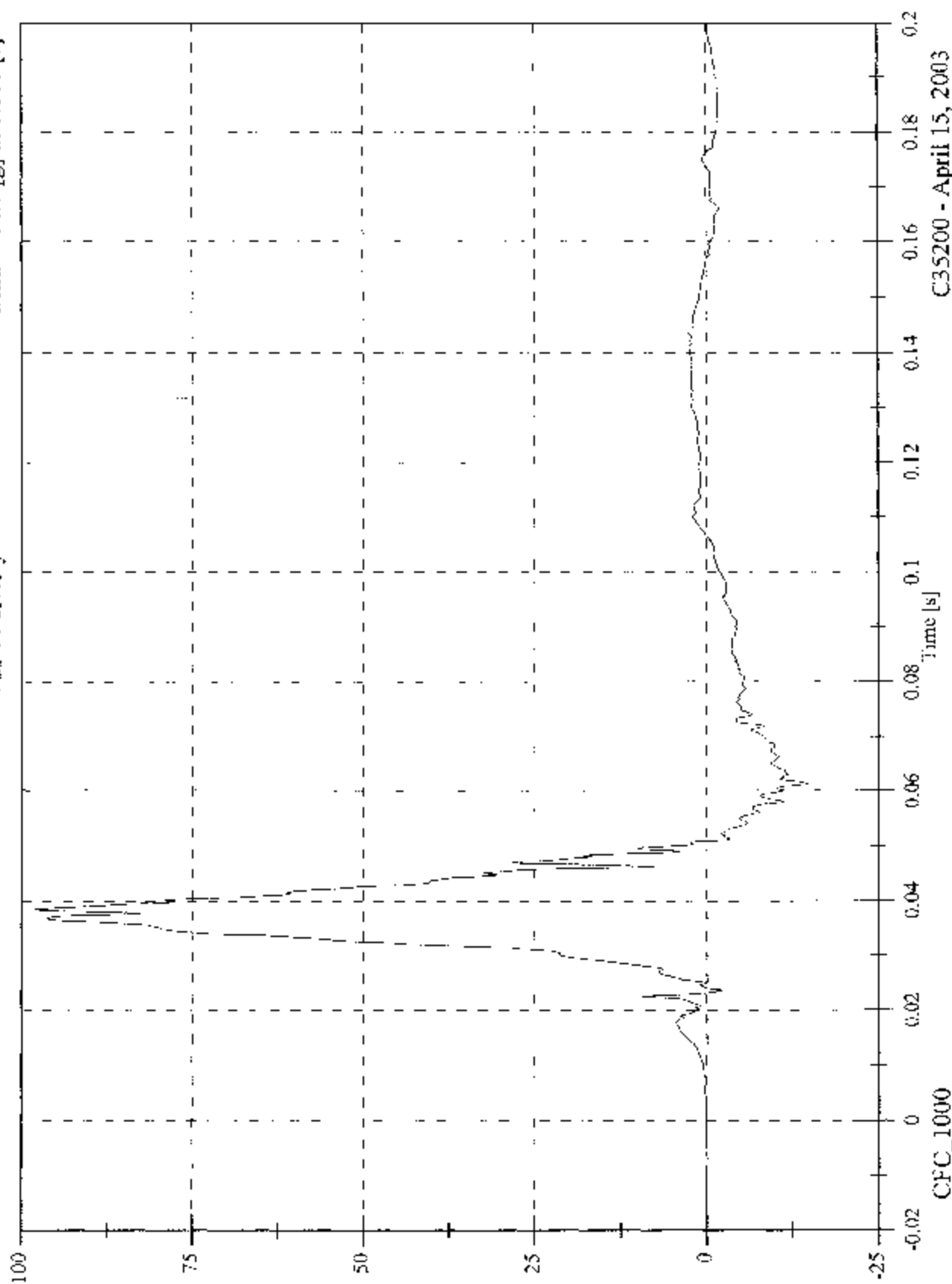
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 98.4 [g] at 0.039 [s]

Min: -14.7 [g] at 0.061 [s]

V2P4 Pelvic y

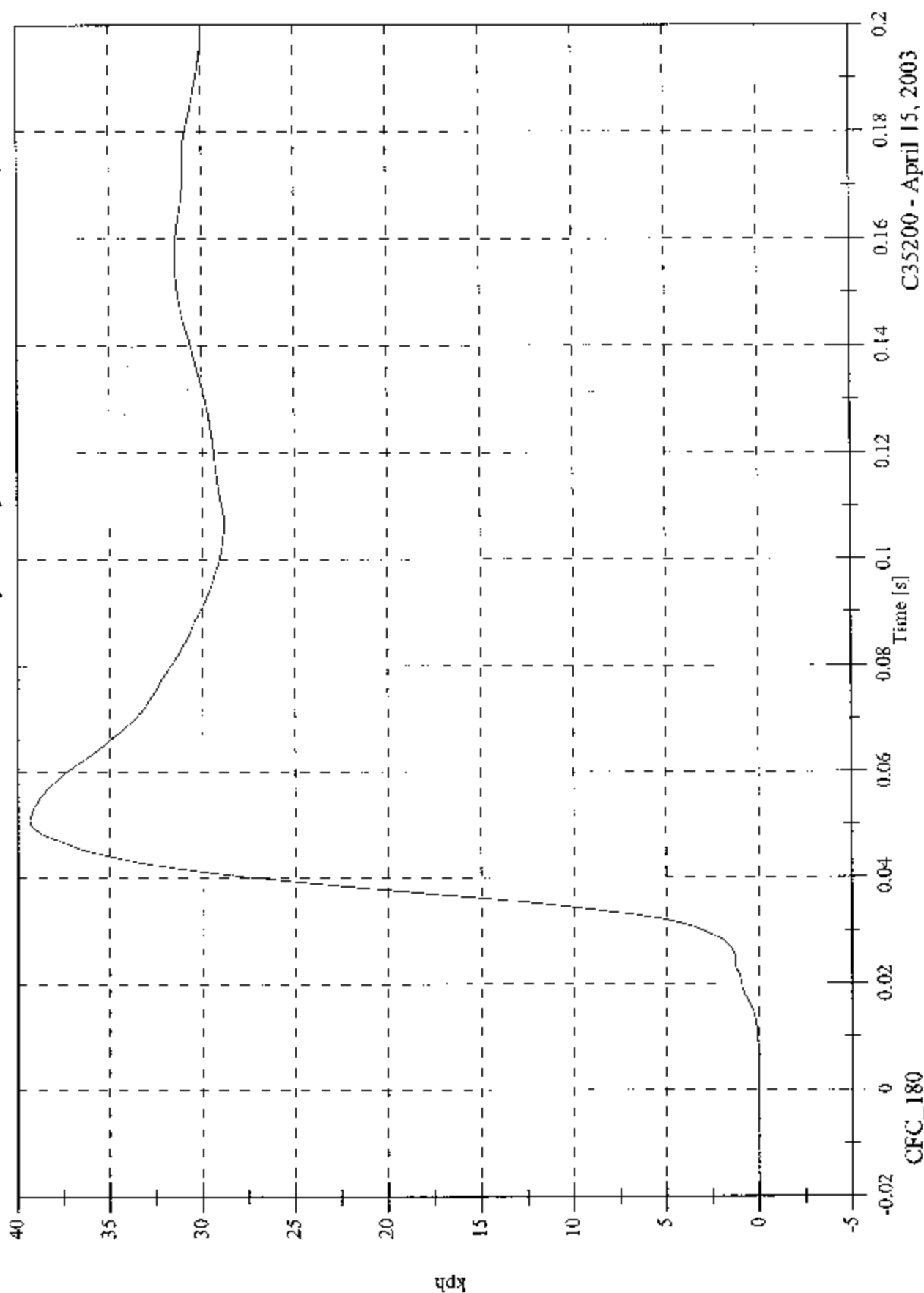


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic y Velocity

Max: 39.3 [kph] at 0.051 [s]
Min: -0.0 [kph] at -0.018 [s]

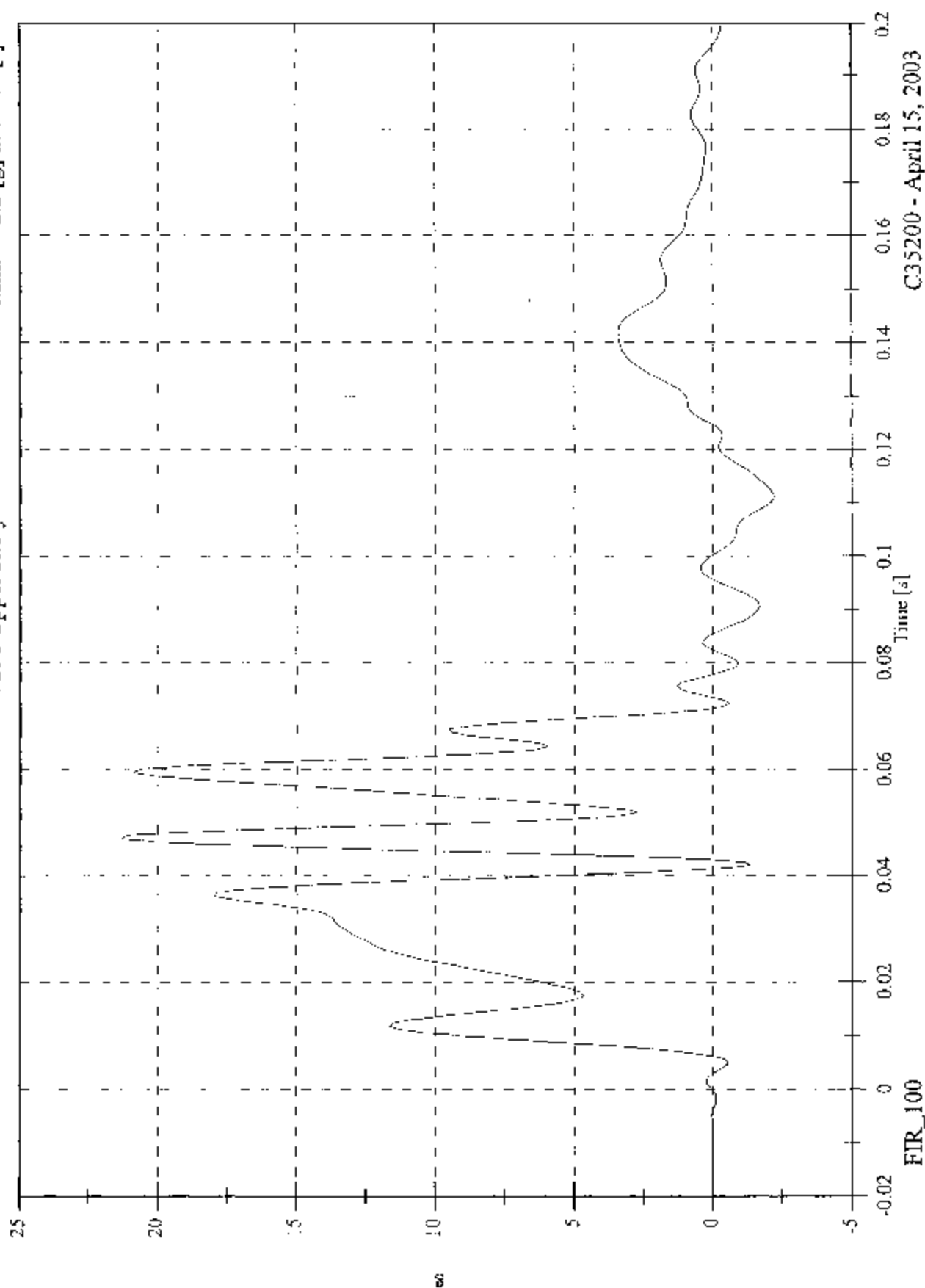


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Rib y

Max: 21.3 [g] at 0.047 [s]
Min: -2.2 [g] at 0.111 [s]

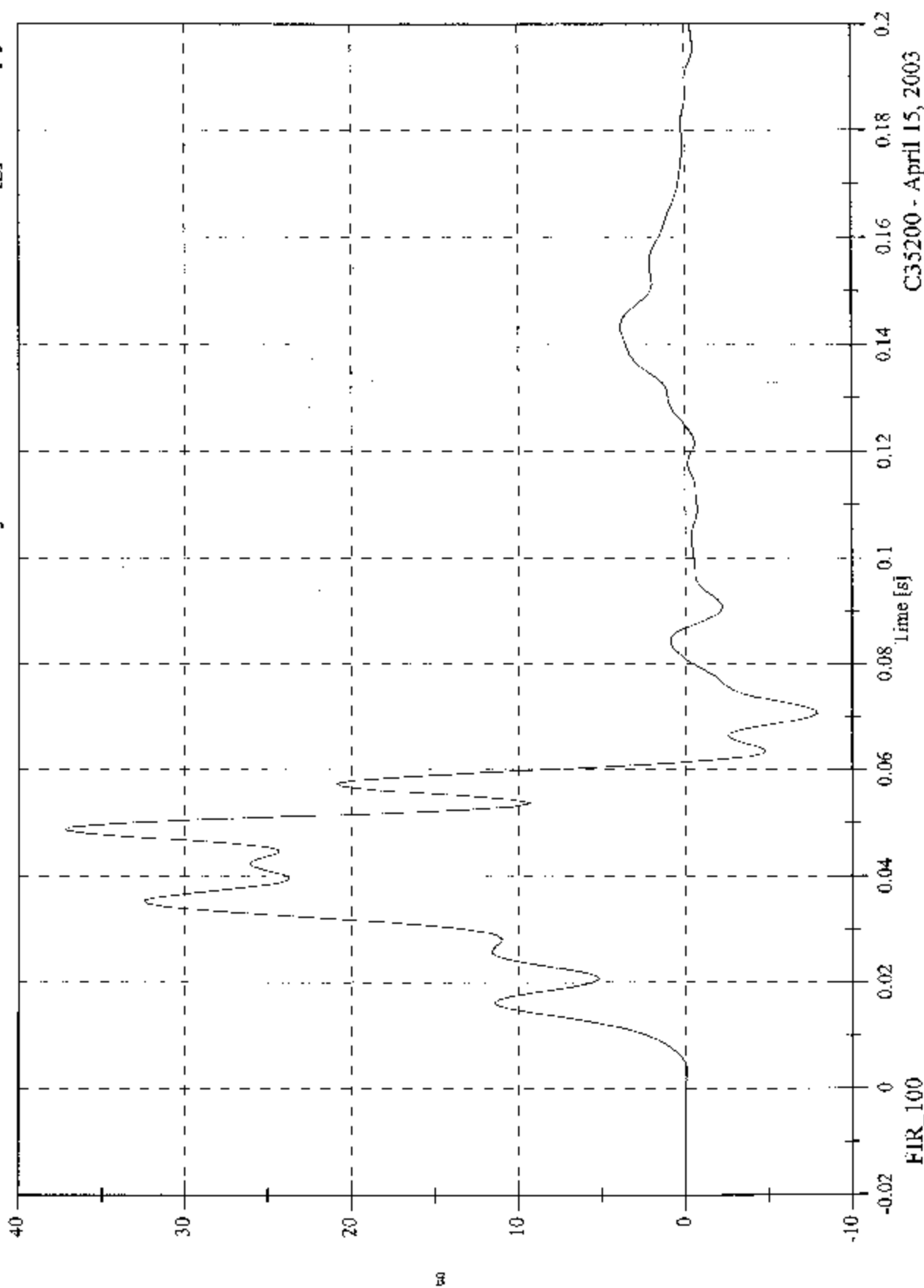


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Rib y

Max: 37.3 [g] at 0.049 [s]
Min: -7.9 [g] at 0.071 [s]

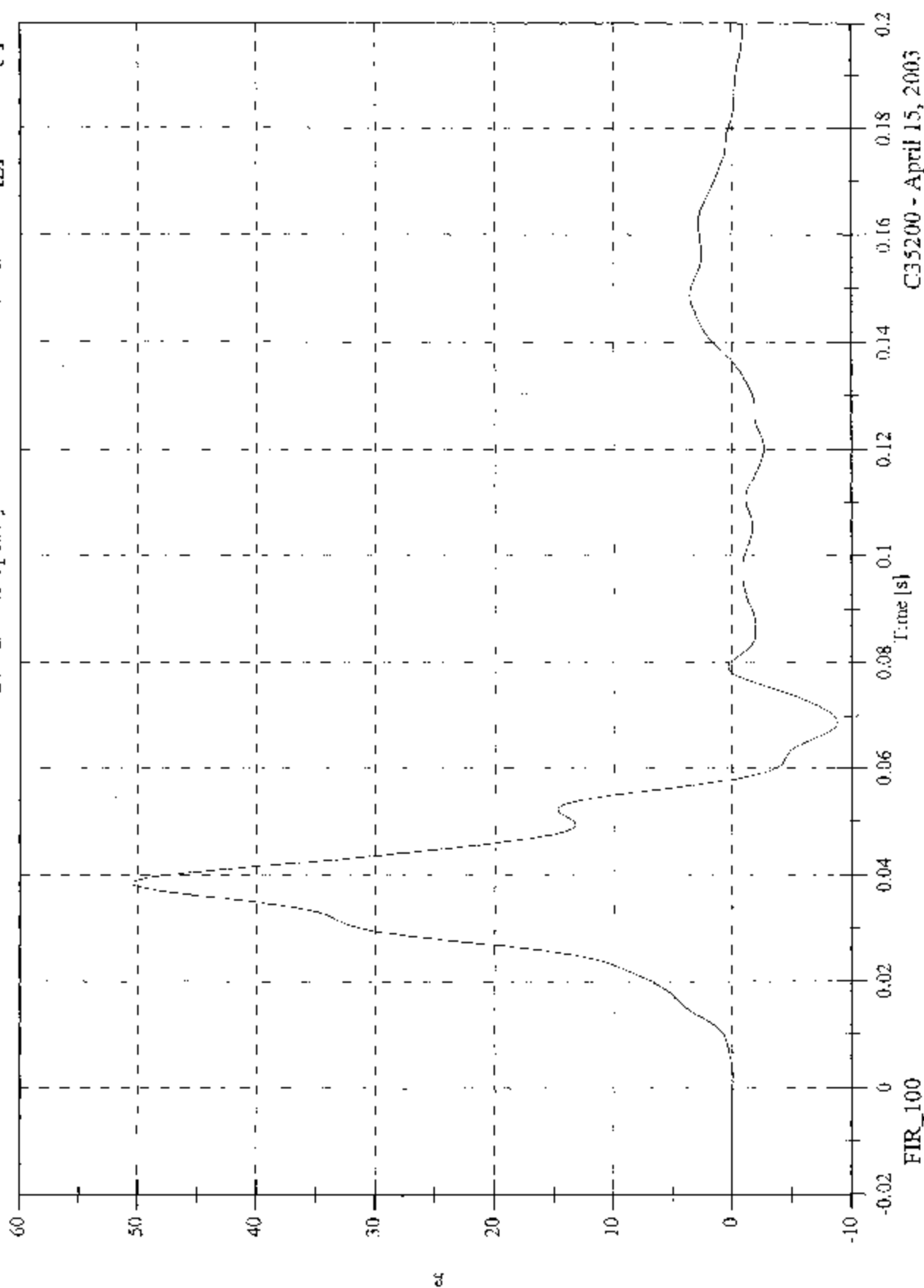


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2Pl Lower Spine y

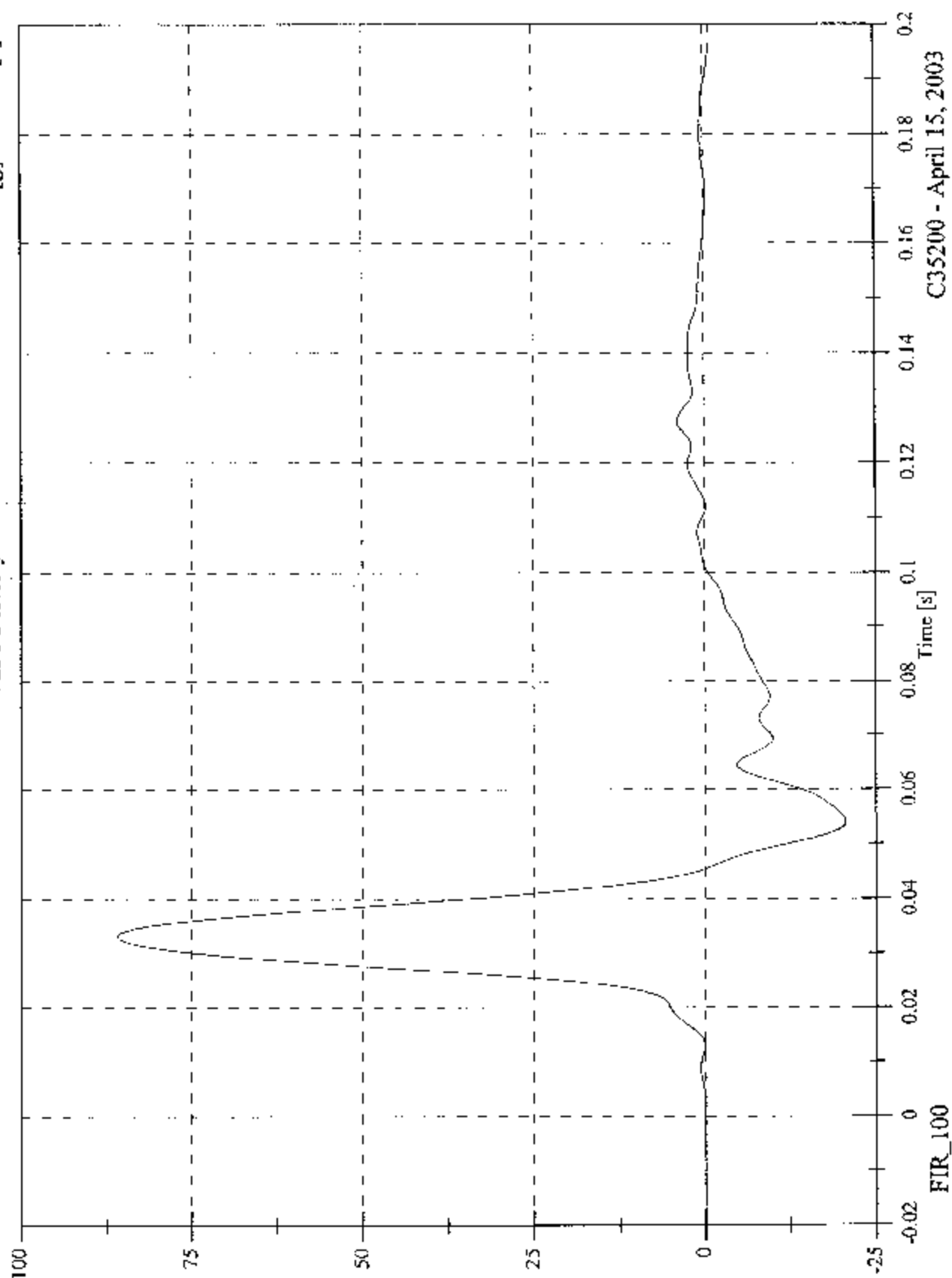
Max: 50.4 [g] at 0.038 [s]
Min: -8.8 [g] at 0.069 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 86.1 [g] at 0.033 [s]
Min: -20.7 [g] at 0.054 [s]

V2P1 Pelvic y

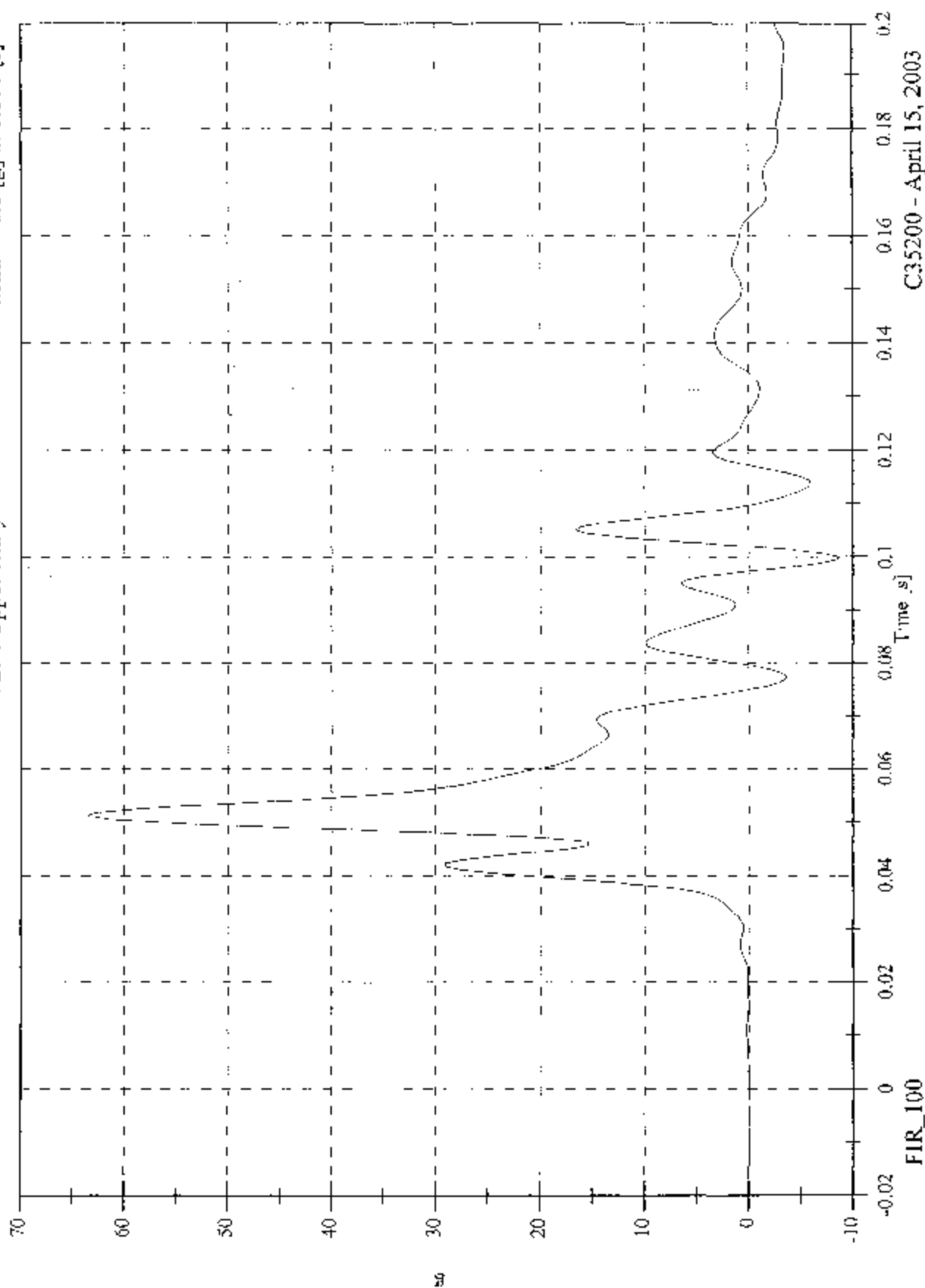


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib y

Max: 63.6 [g] at 0.051 [s]
Min: -8.6 [g] at 0.100 [s]

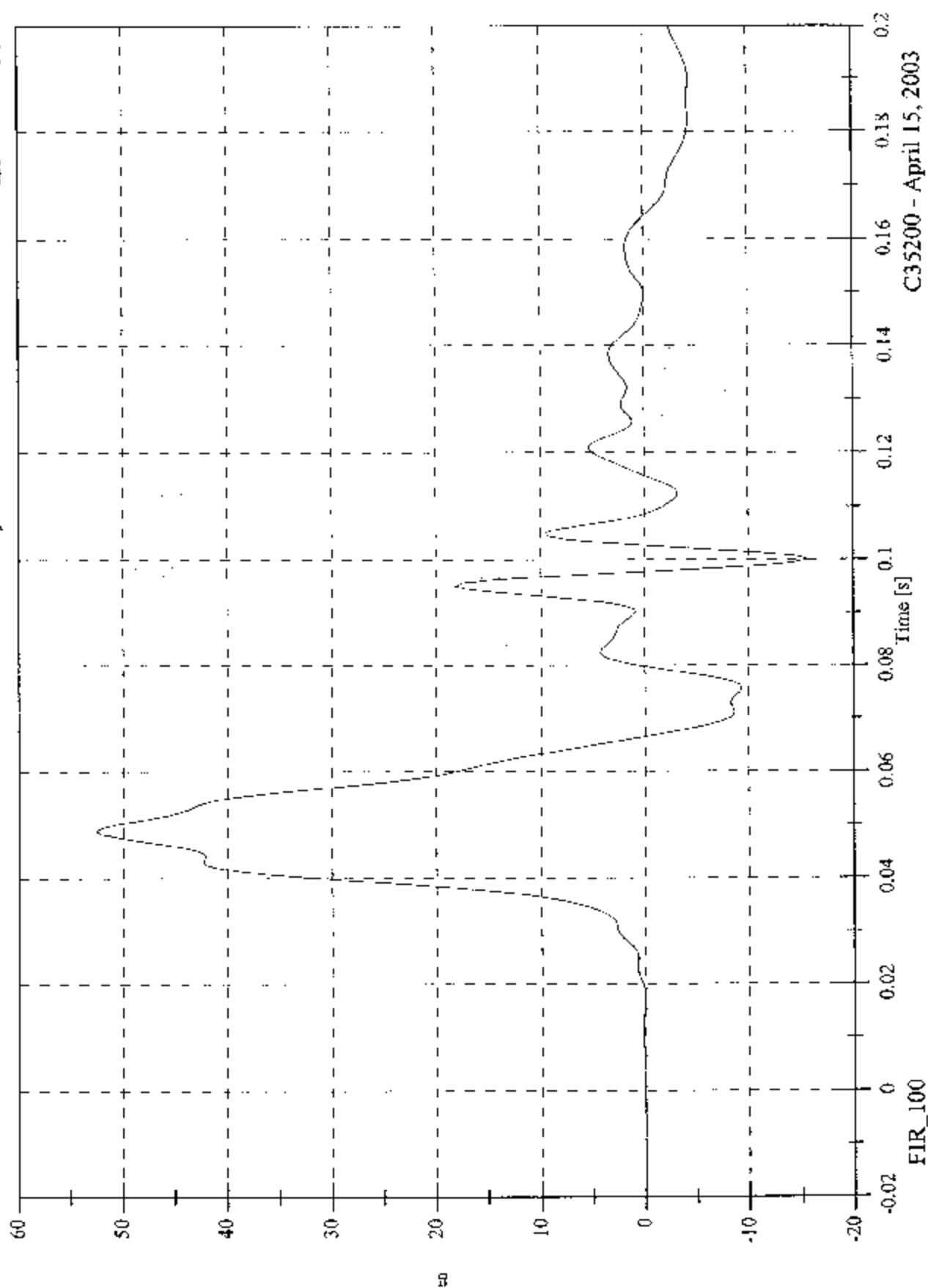


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 52.5 [g] at 0.049 [s]
Min: -15.7 [g] at 0.100 [s]

V2P4 Lower Rib y



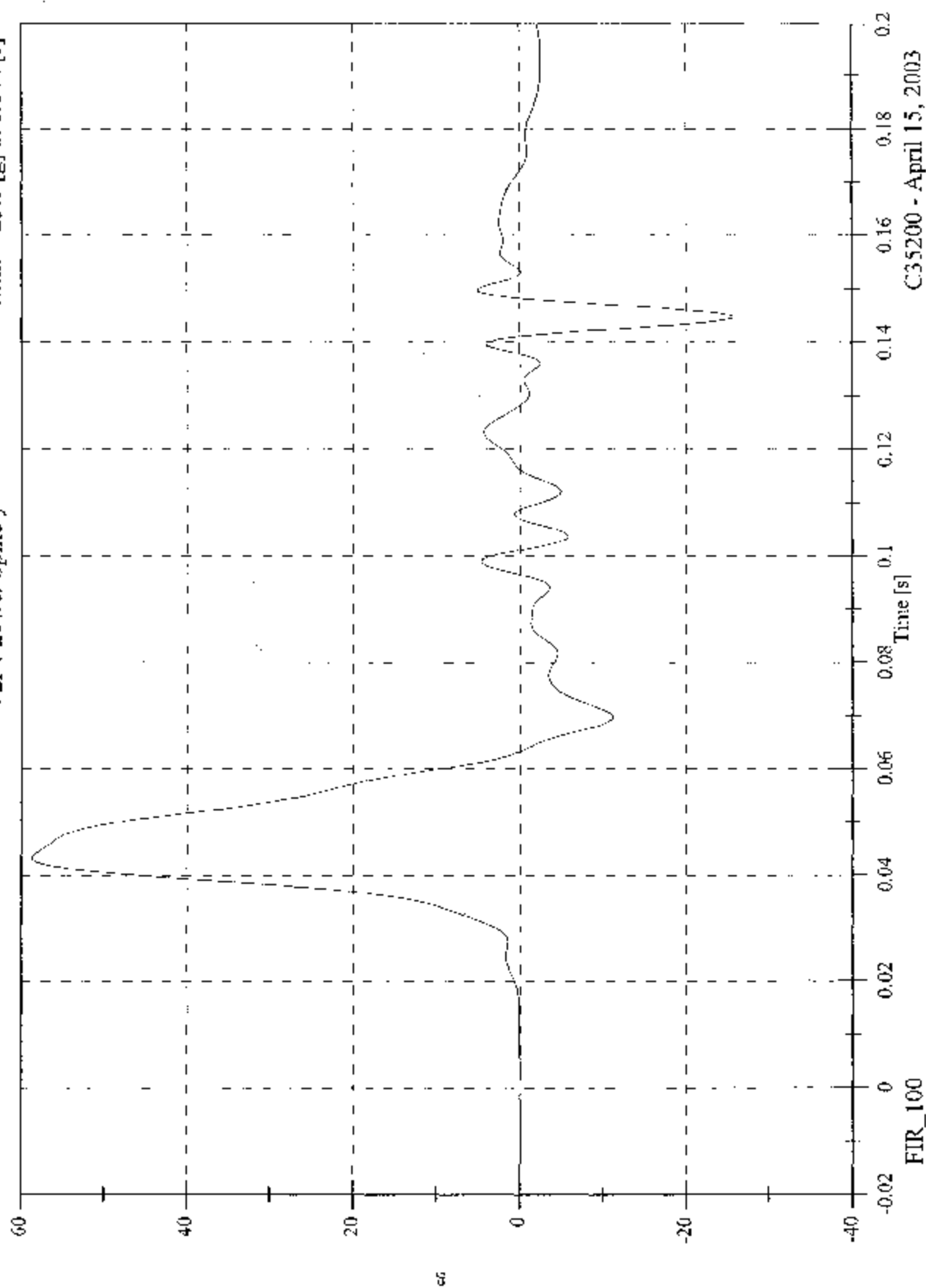
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 58.7 [g] at 0.043 [s]

Min: -25.6 [g] at 0.144 [s]

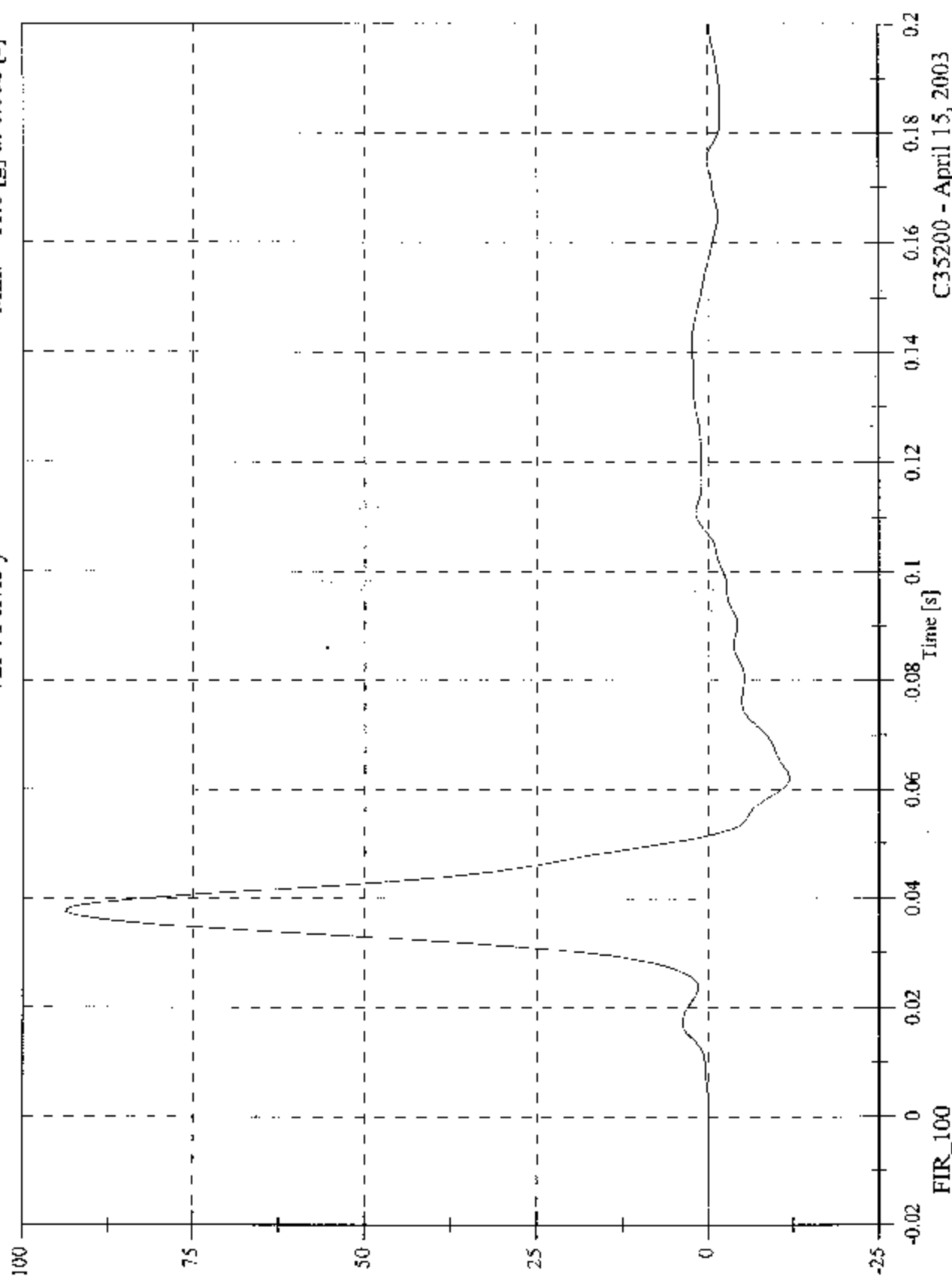
V2P4 Lower Spine y



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic y

Max: 93.8 [g] at 0.037 [s]
Min: -11.8 [g] at 0.062 [s]

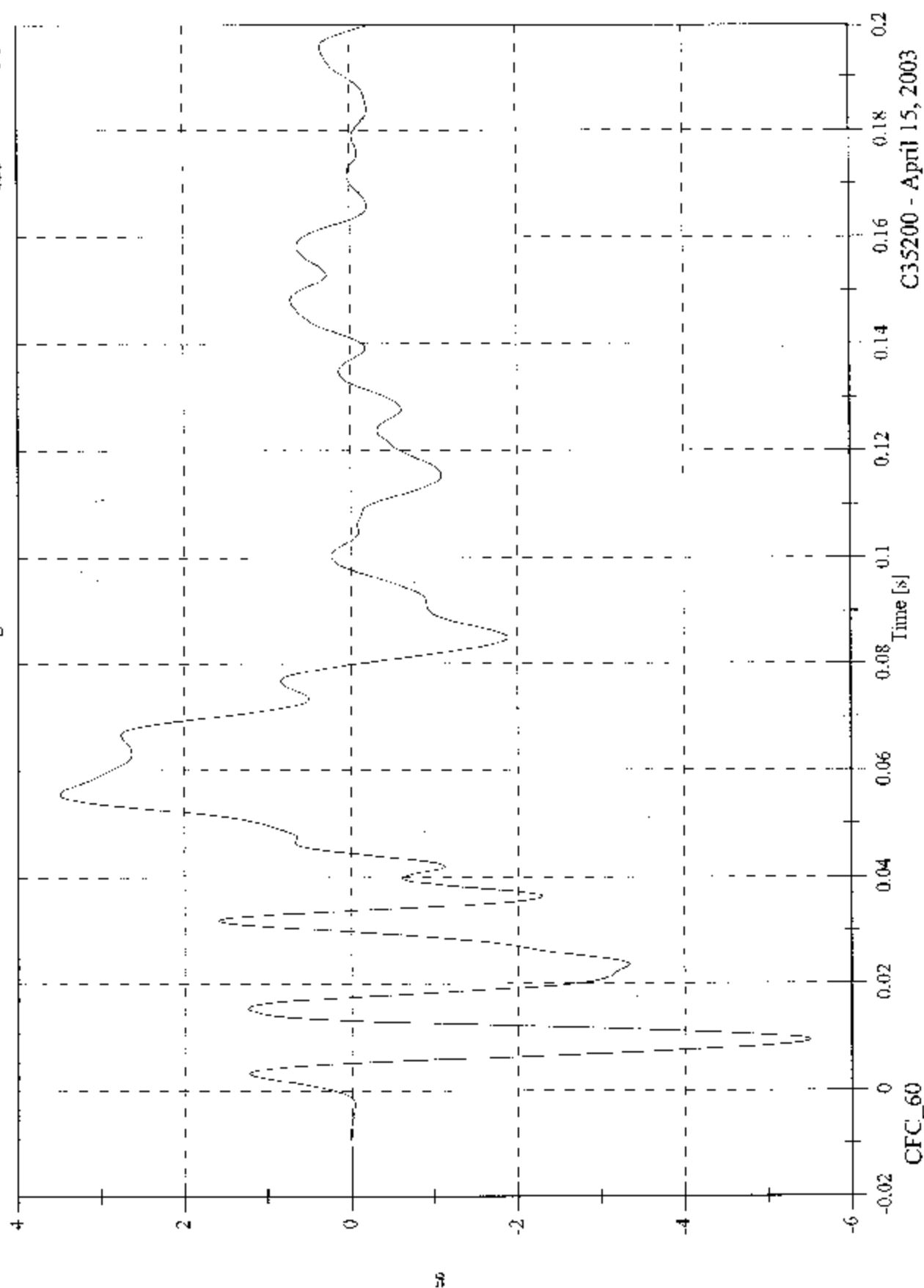


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 AI Right Front Sill x

Max: 3.5 [g] at 0.056 [s]
Min: -5.5 [g] at 0.009 [s]



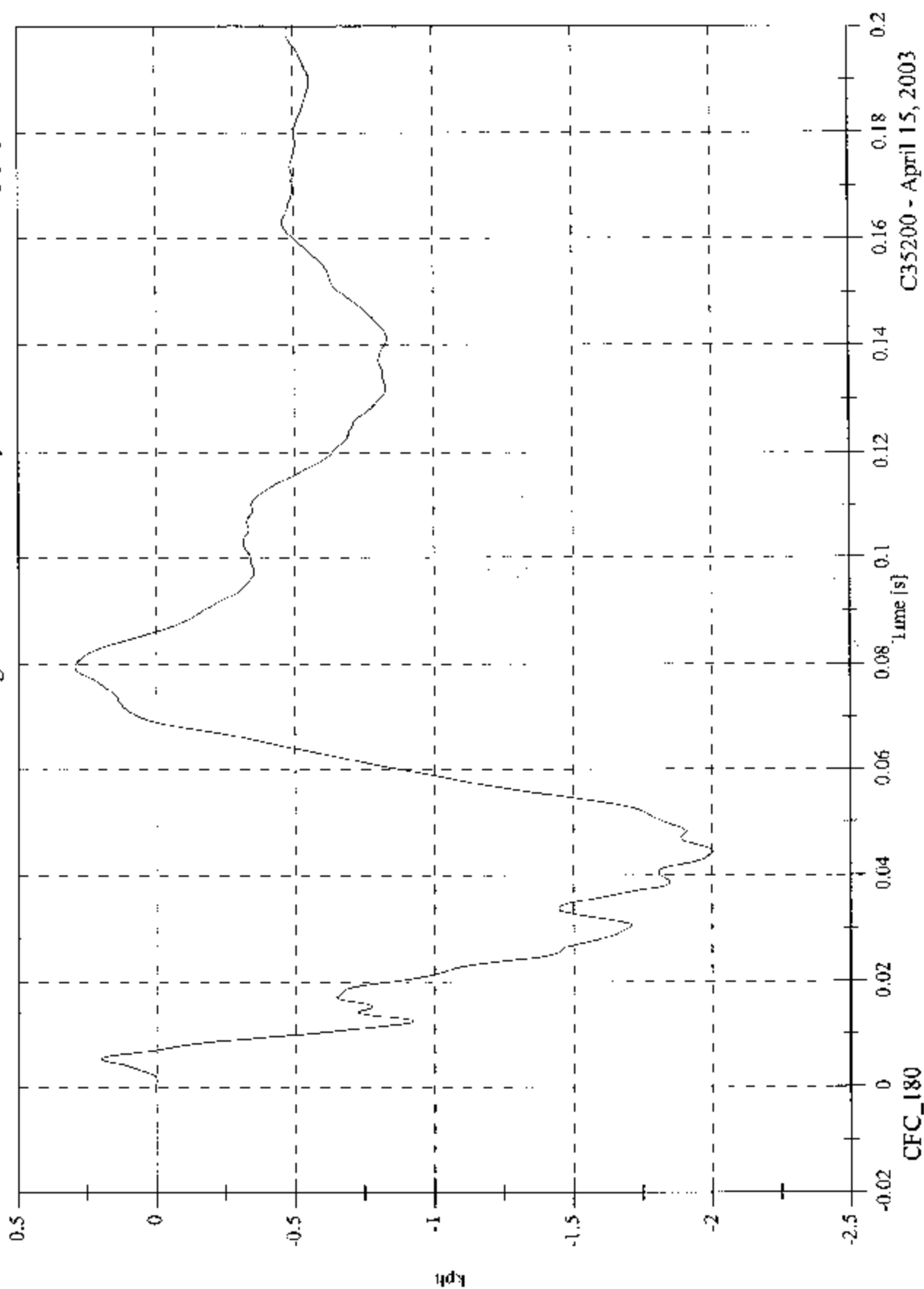
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Sill x Velocity

Max: 0.3 [kph] at 0.079 [s]

Min: -2.0 [kph] at 0.044 [s]

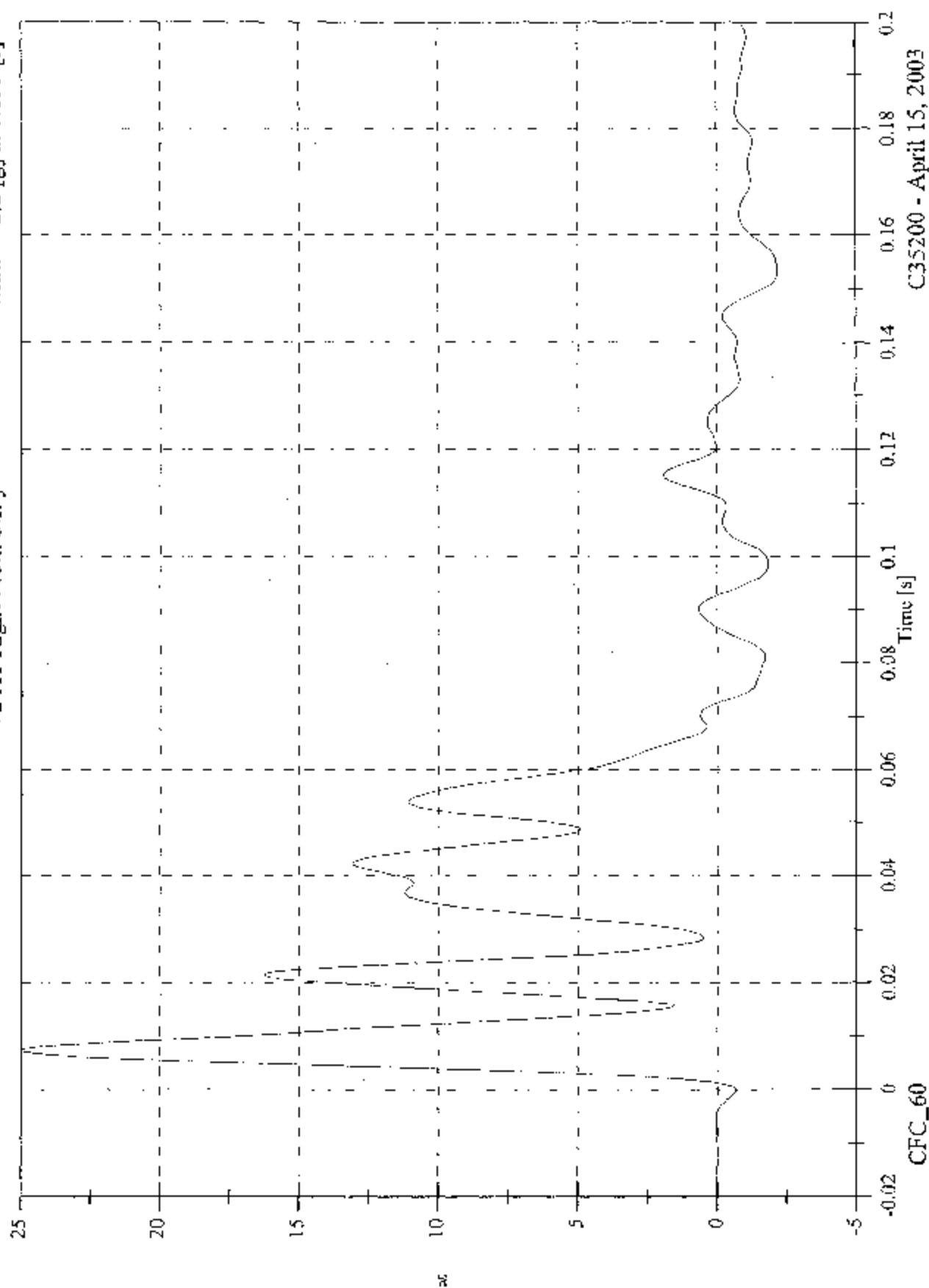


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Sill y

Max: 25.0 [g] at 0.007 [s]
Min: -2.2 [g] at 0.153 [s]



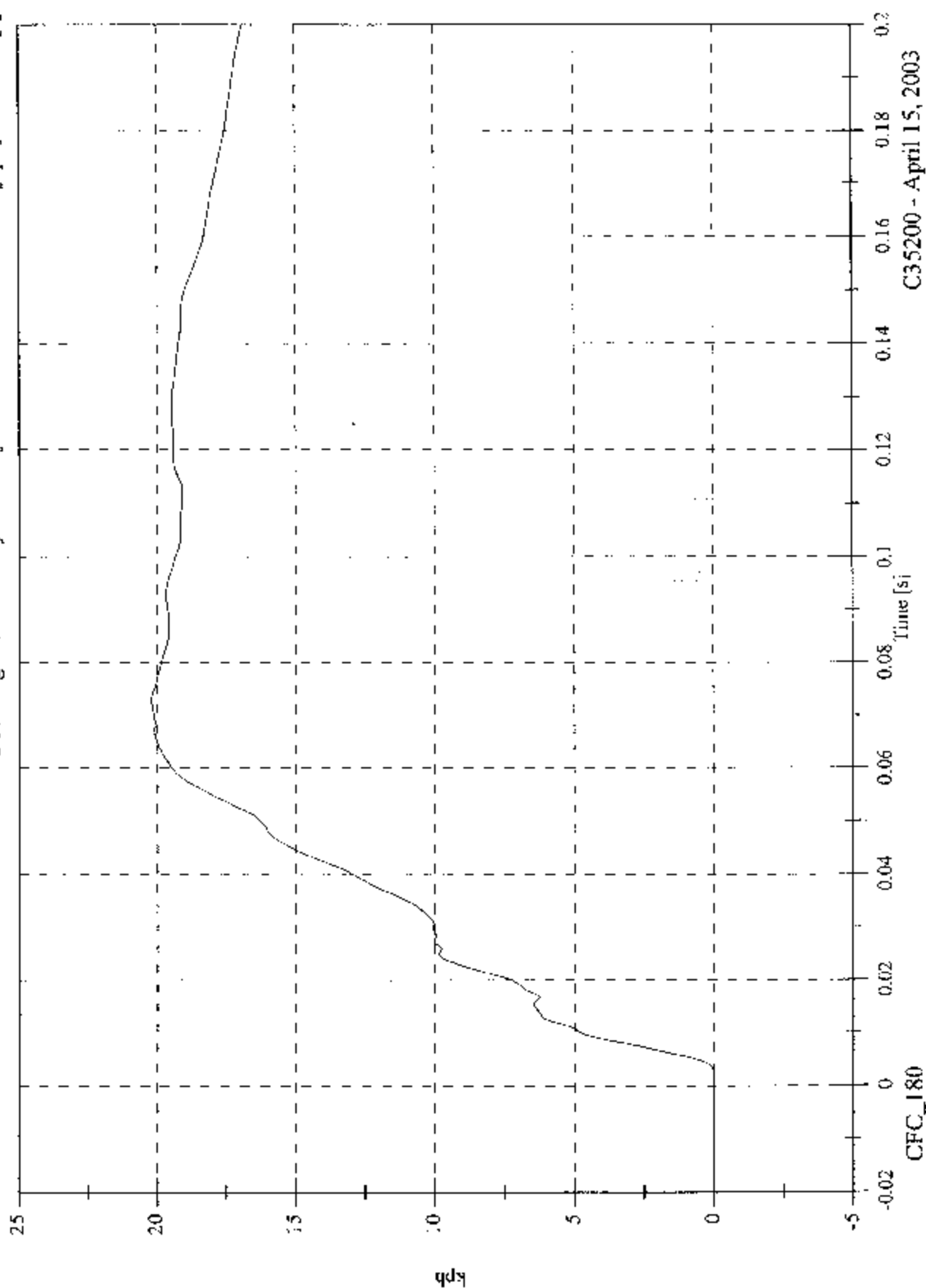
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SLV

Max: 20.2 [kph] at 0.073 [s]

Min: -0.0 [kph] at -0.018 [s]

V2 A1 Right Front Sill y Velocity

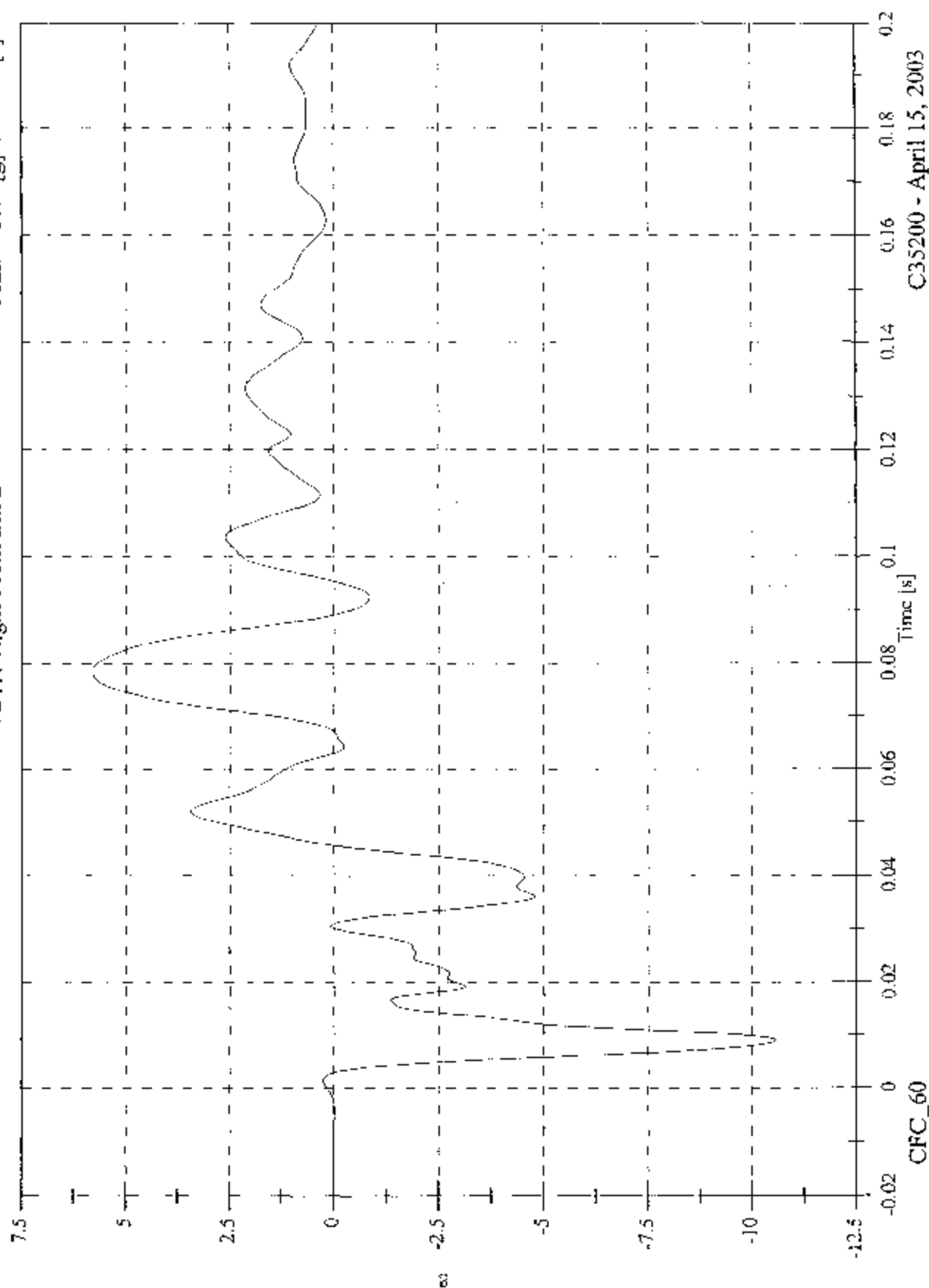


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Sill z

Max: 5.8 [g] at 0.079 [s]
Min: -10.6 [g] at 0.009 [s]



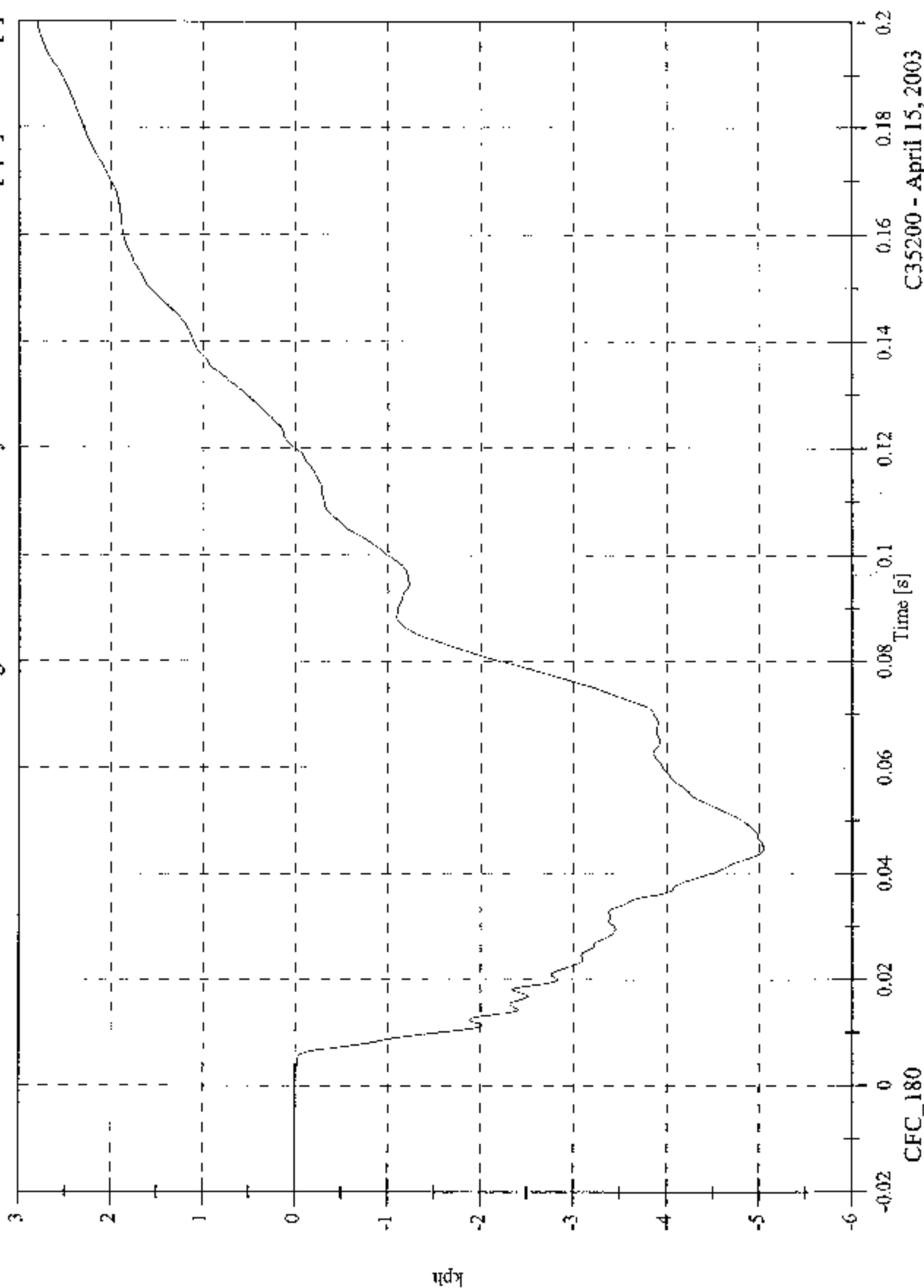
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Sill z Velocity

Max: 2.8 [kph] at 0.200 [s]

Min: -5.0 [kph] at 0.045 [s]



CFC_180

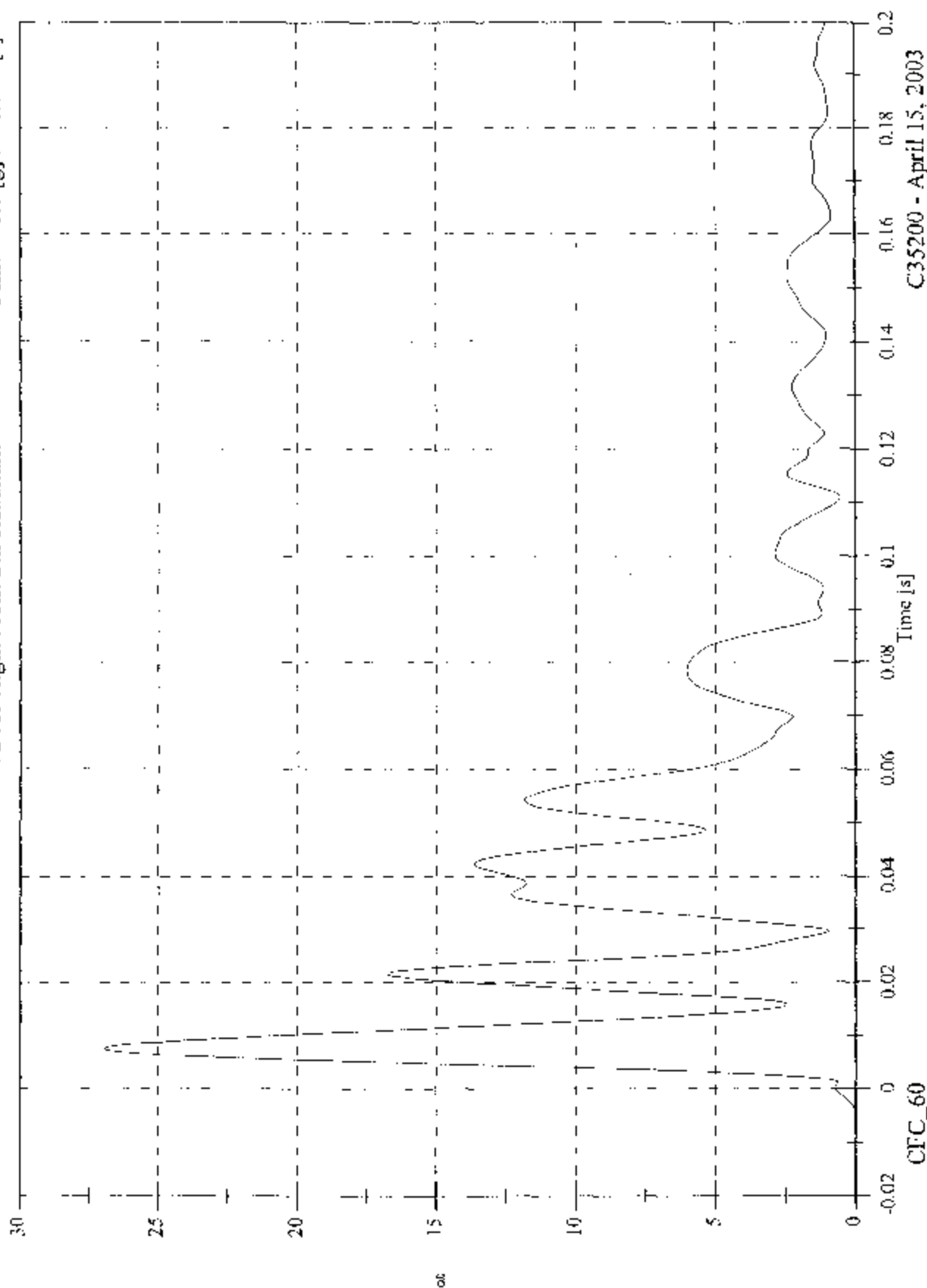
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A1 Right Front Still Resultant

Max: 27.0 [g] at 0.008 [s]

Min: 0.0 [g] at -0.014 [s]



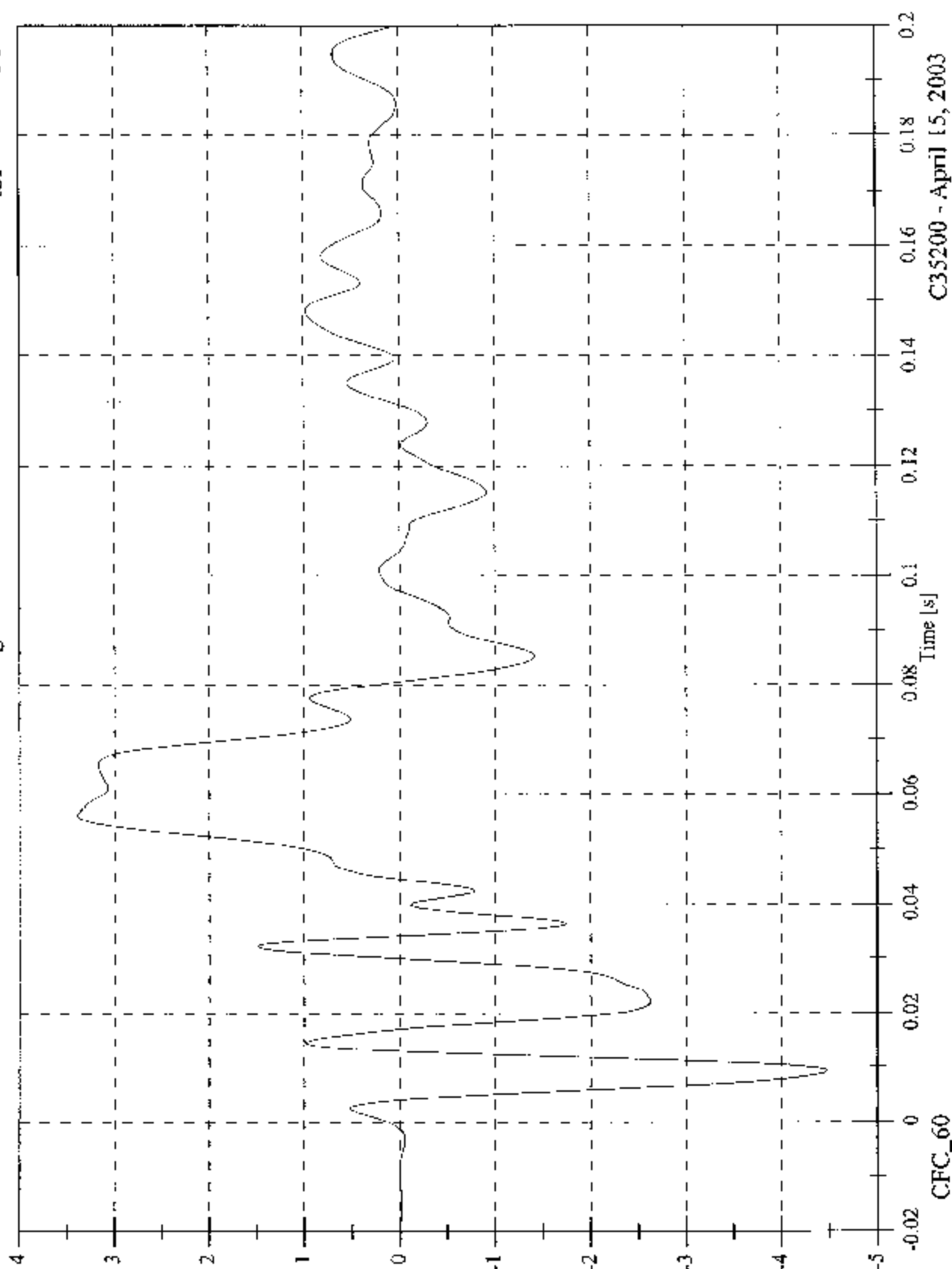
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 3.4 [g] at 0.056 [s]

Min: -4.5 [g] at 0.009 [s]

V2 A2 Right Rear Sill x

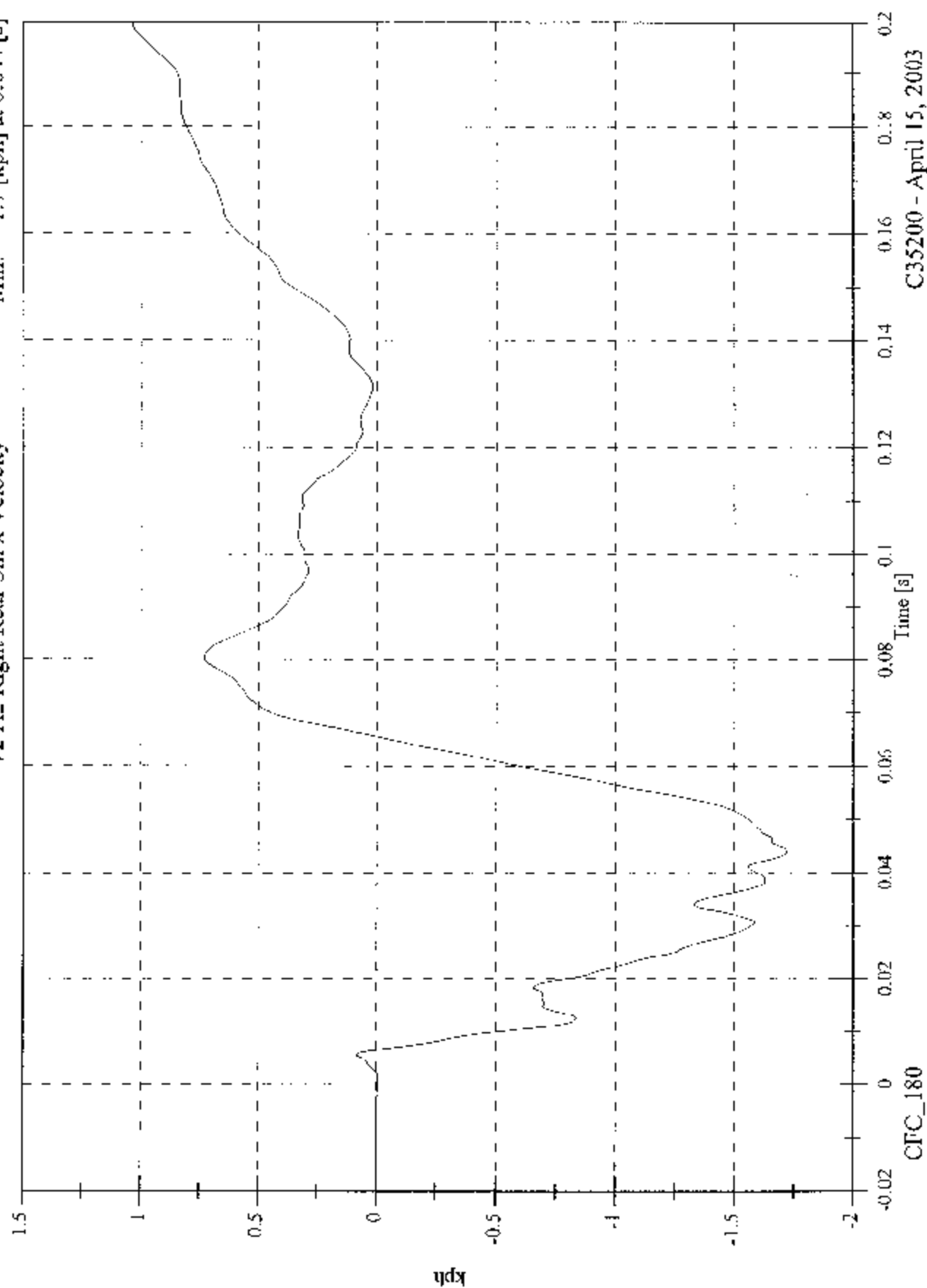


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 1.0 [kph] at 0.200 [s]
Min: -1.7 [kph] at 0.044 [s]

V2 A2 Right Rear Sill x Velocity



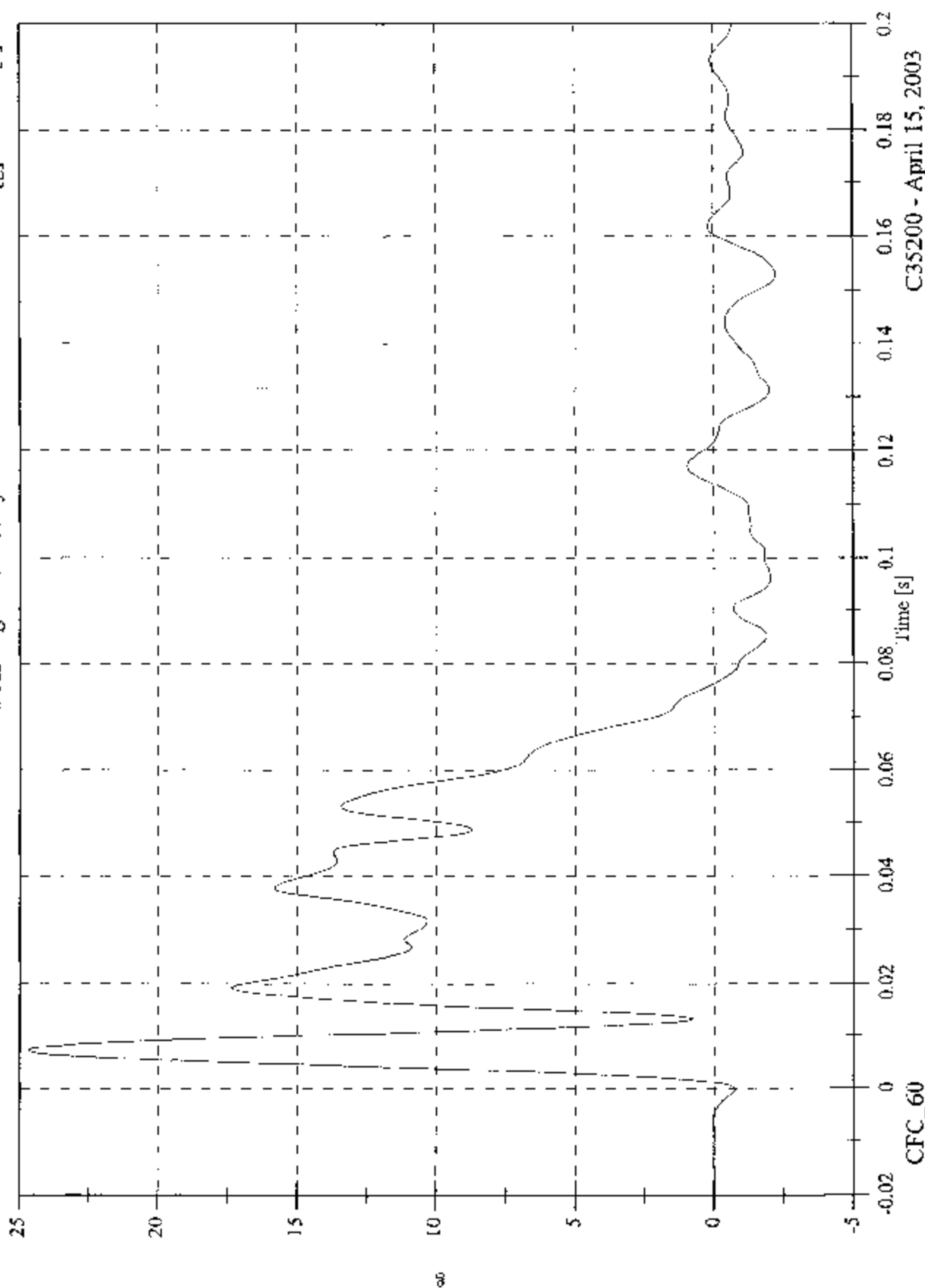
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A2 Right Rear Sill y

Max: 24.7 [g] at 0.007 [s]

Min: -2.2 [g] at 0.153 [s]

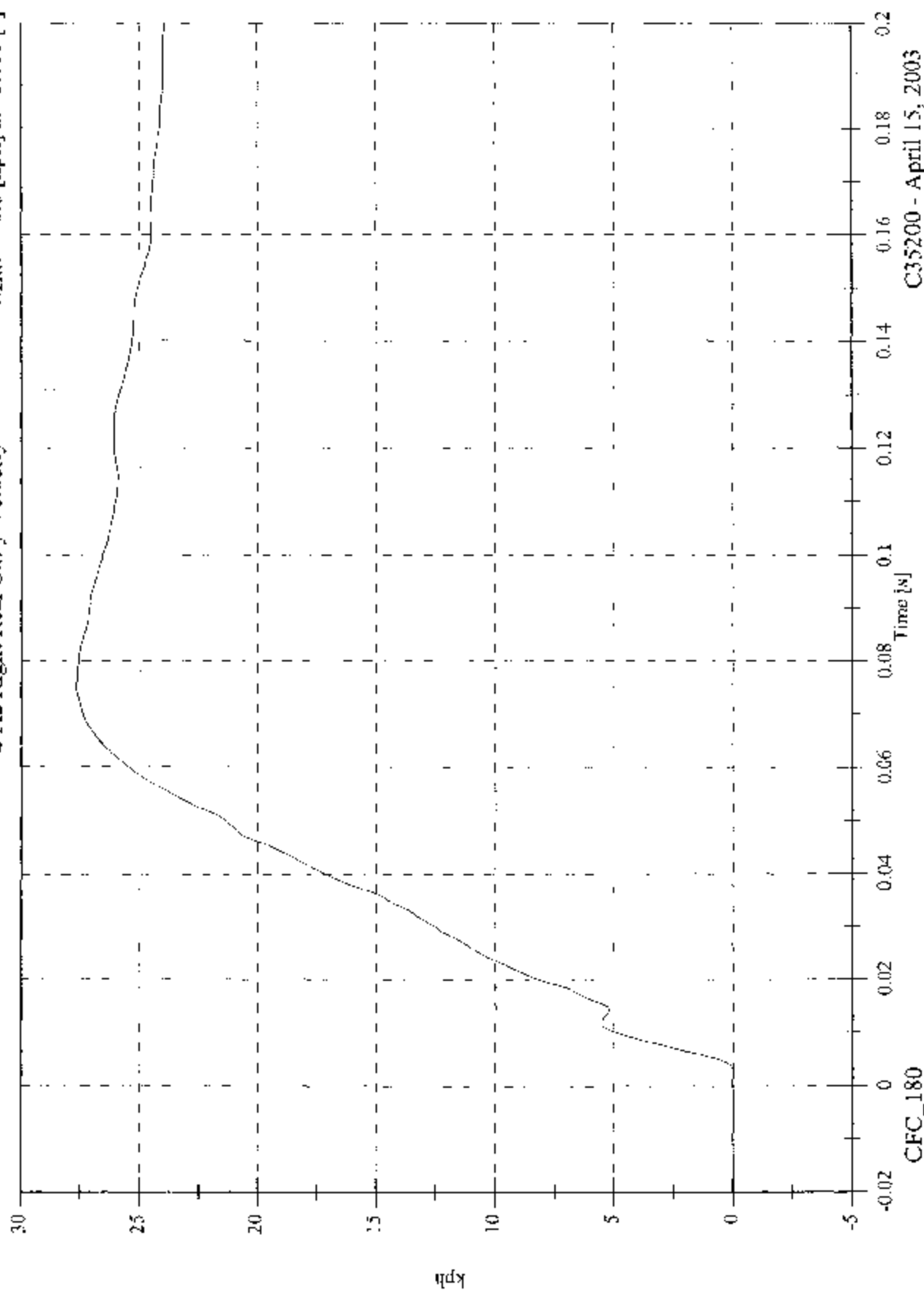


C3S200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SLV

V2 A2 Right Rear Sill y Velocity

Max: 27.7 [kph] at 0.075 [s]
Min: -0.0 [kph] at -0.018 [s]

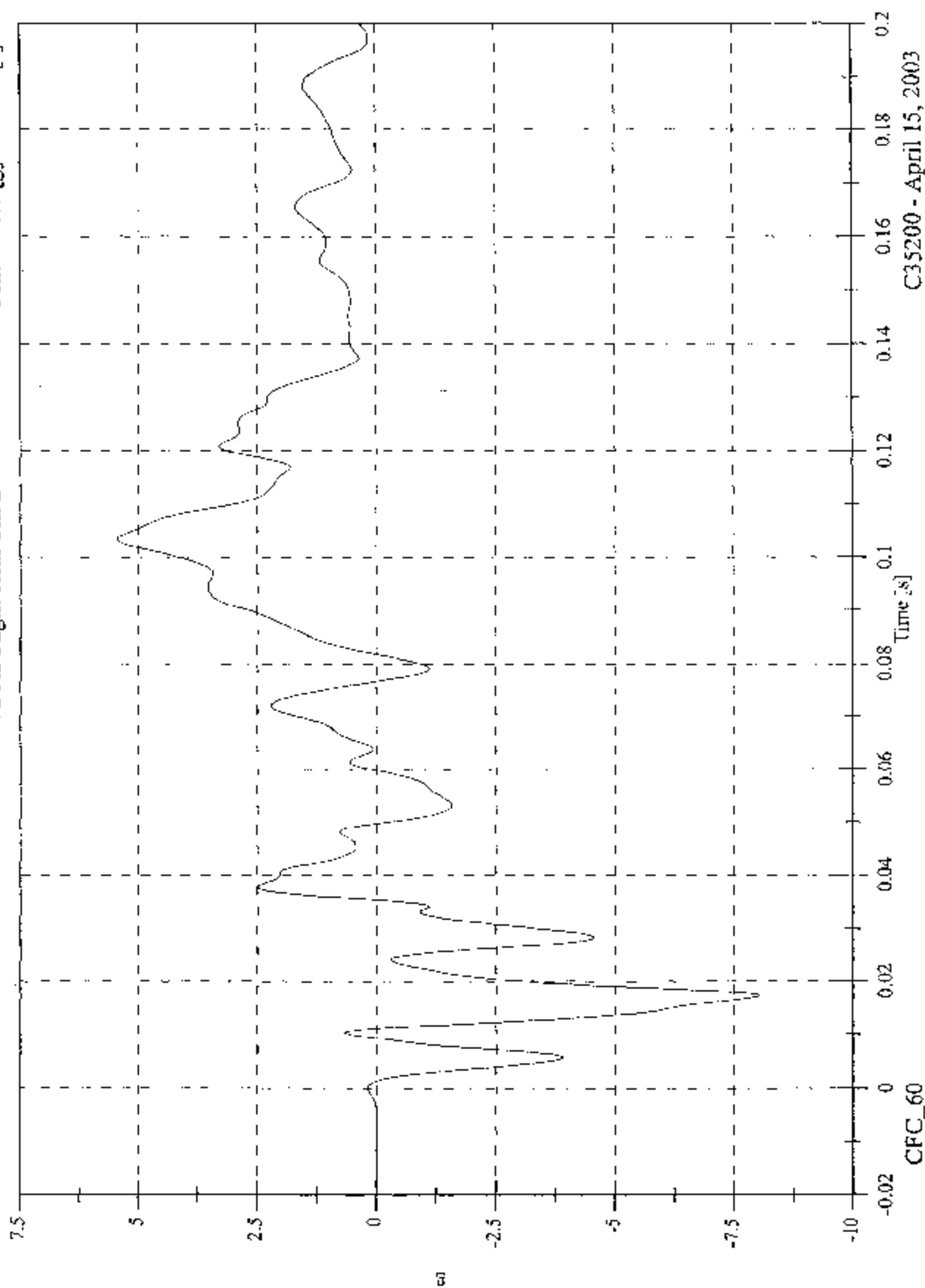


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A2 Right Rear Sill z

Max: 5.5 [g] at 0.103 [s]
Min: -8.0 [g] at 0.017 [s]

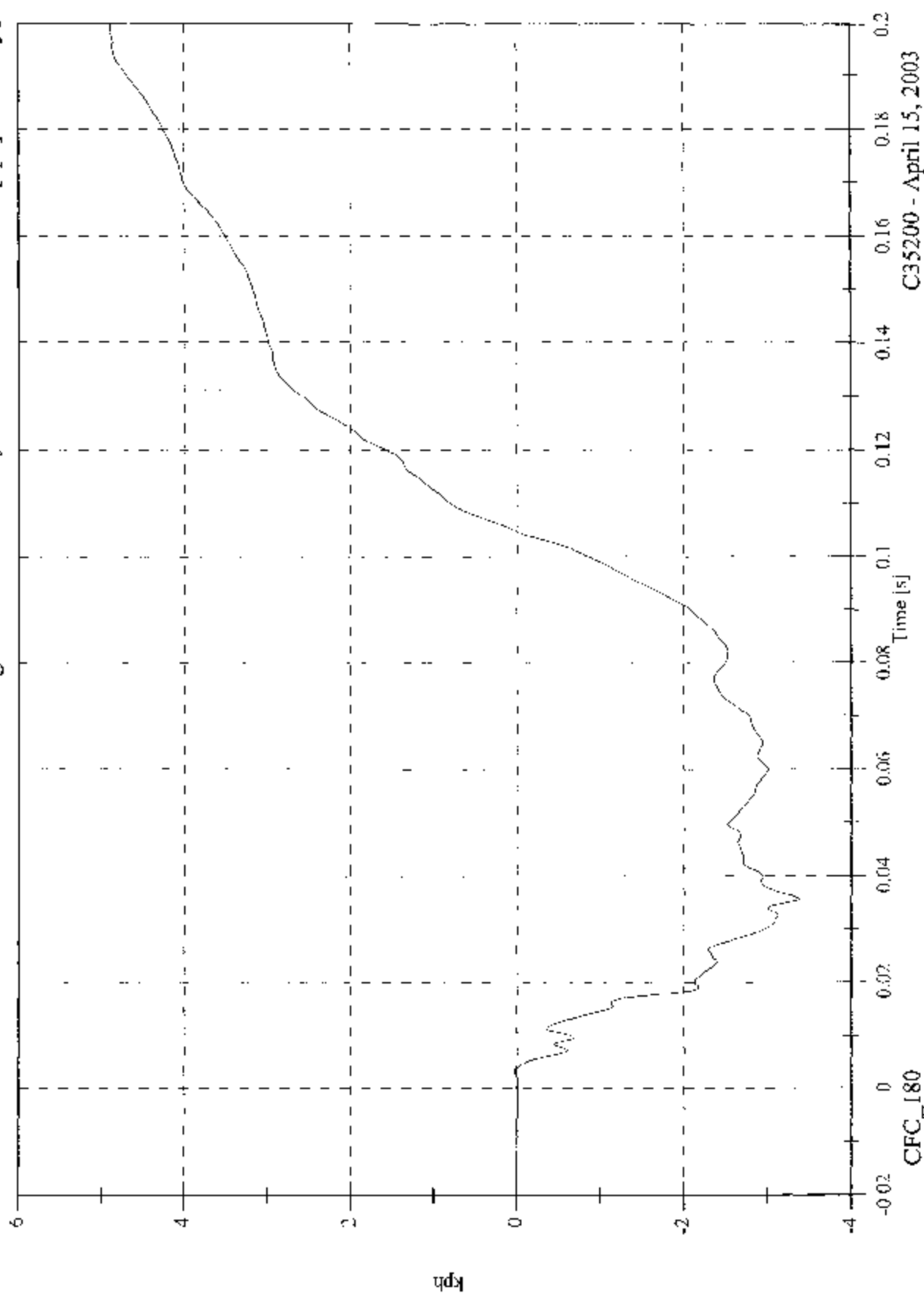


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A2 Right Rear Sill z Velocity

Max: 4.9 [kph] at 0.200 [s]
Min: -3.4 [kph] at 0.036 [s]

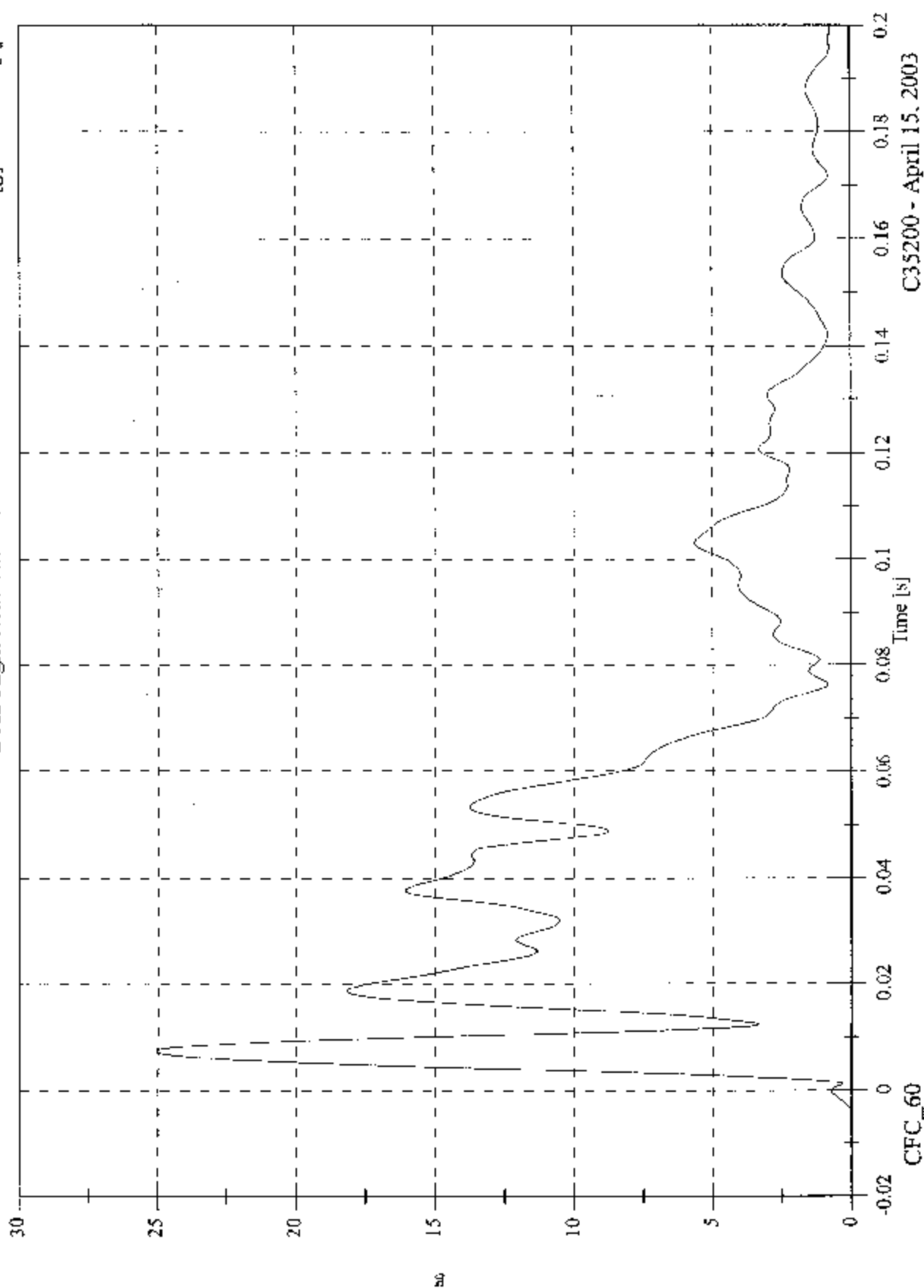


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A2 Right Rear Sill Resultant

Max: 25.1 [g] at 0.007 [s]
Min: 0.0 [g] at -0.018 [s]

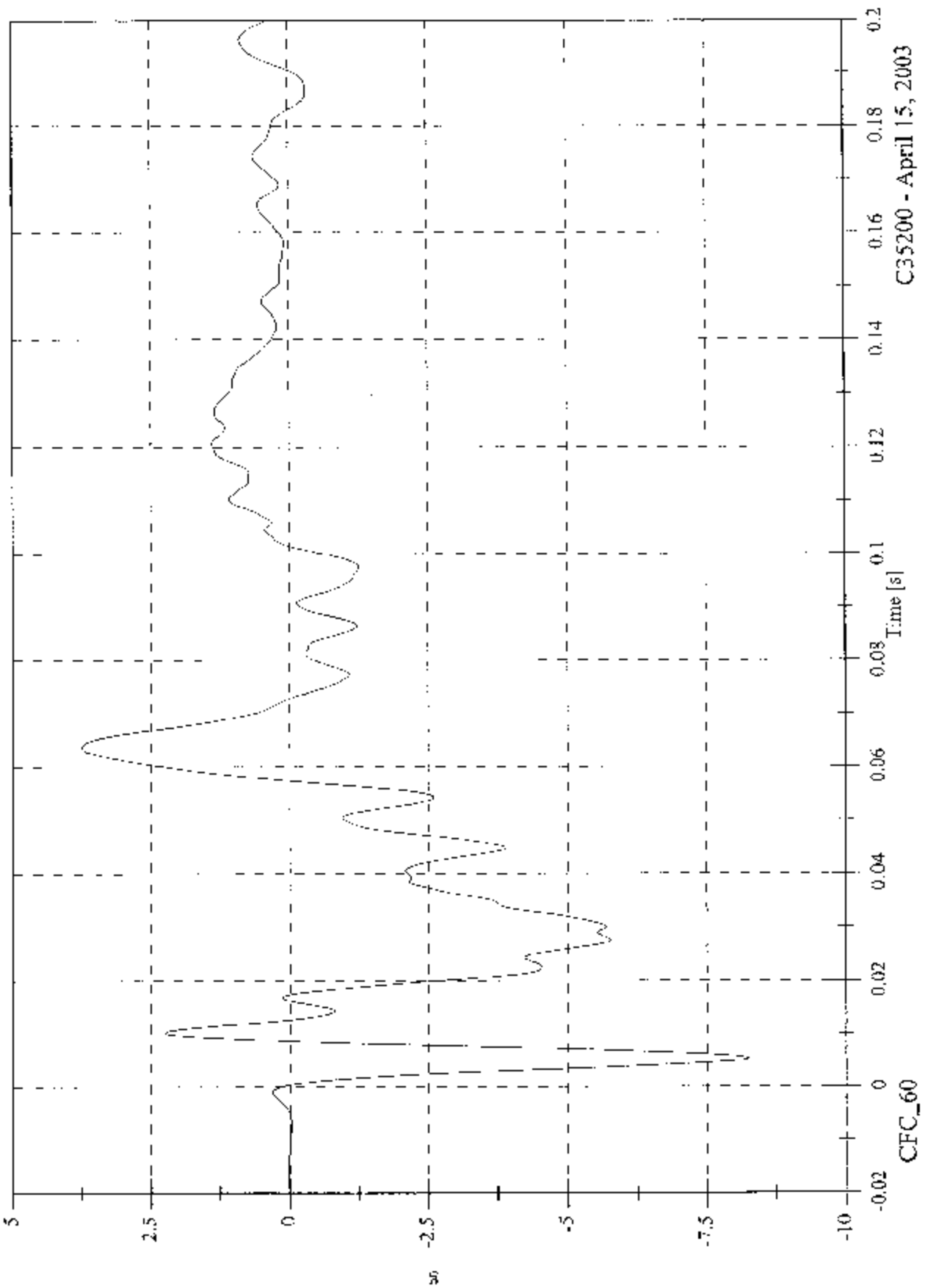


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 - 2003 Nissan Murano SUV

V2 A3 Rear Floorpan x

Max: 3.8 [g] at 0.064 [s]
Min: -8.2 [g] at 0.005 [s]

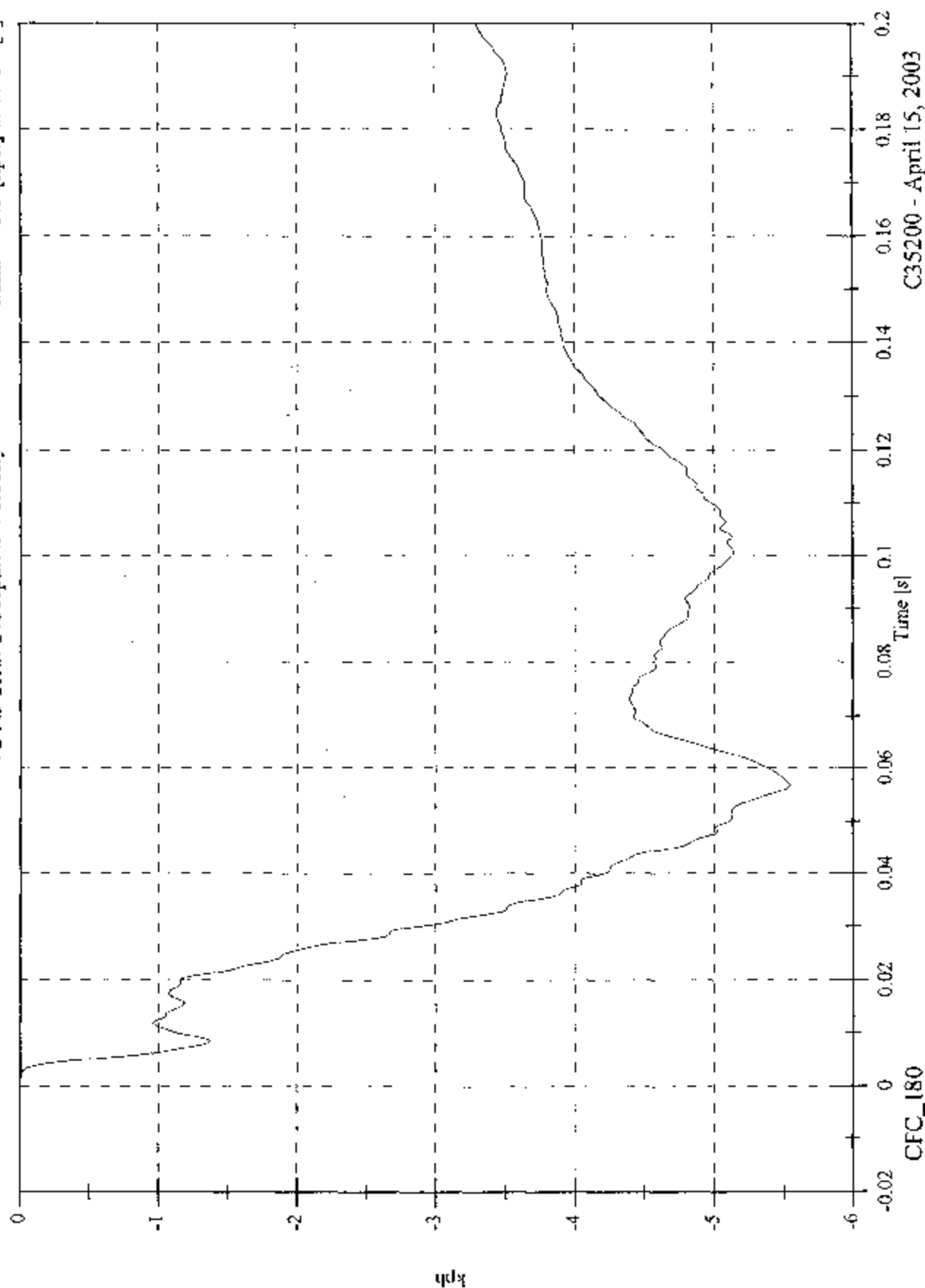


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan x Velocity

Max: 0.0 [kph] at 0.001 [s]
Min: -5.5 [kph] at 0.057 [s]

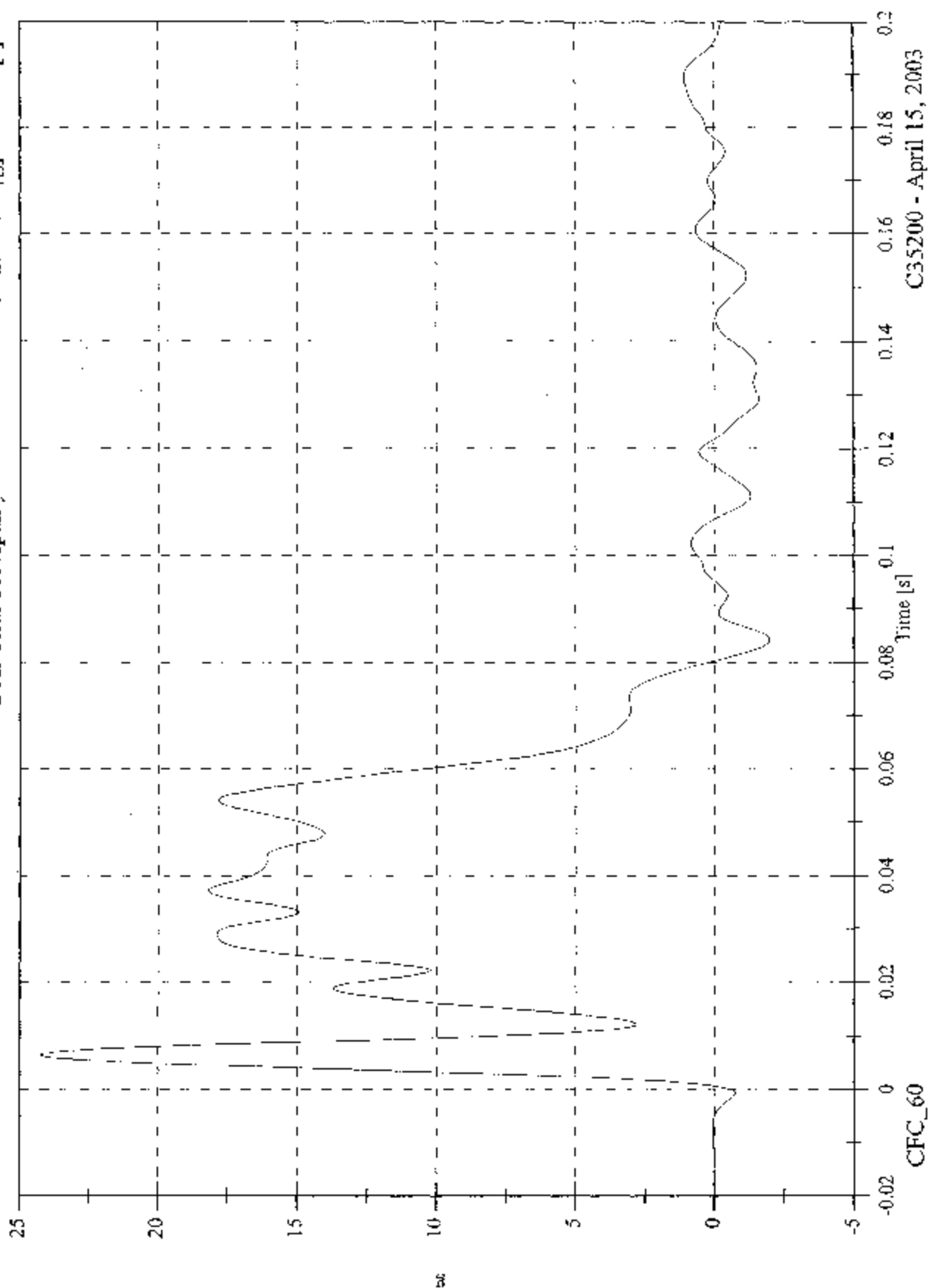


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan y

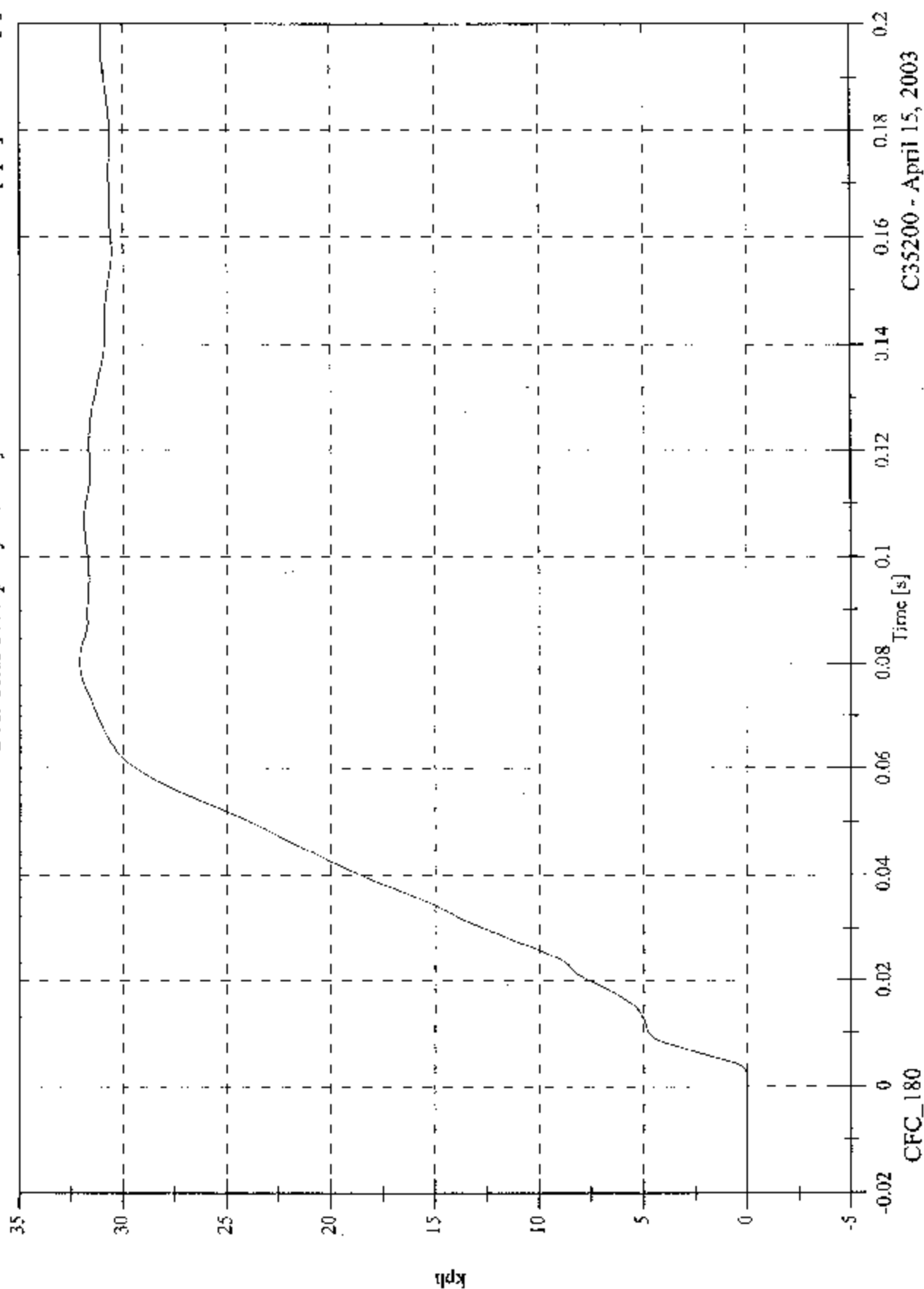
Max: 24.2 [g] at 0.006 [s]
Min: -2.0 [g] at 0.084 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan y Velocity

Max: 32.1 [kph] at 0.081 [s]
Min: -0.0 [kph] at -0.015 [s]

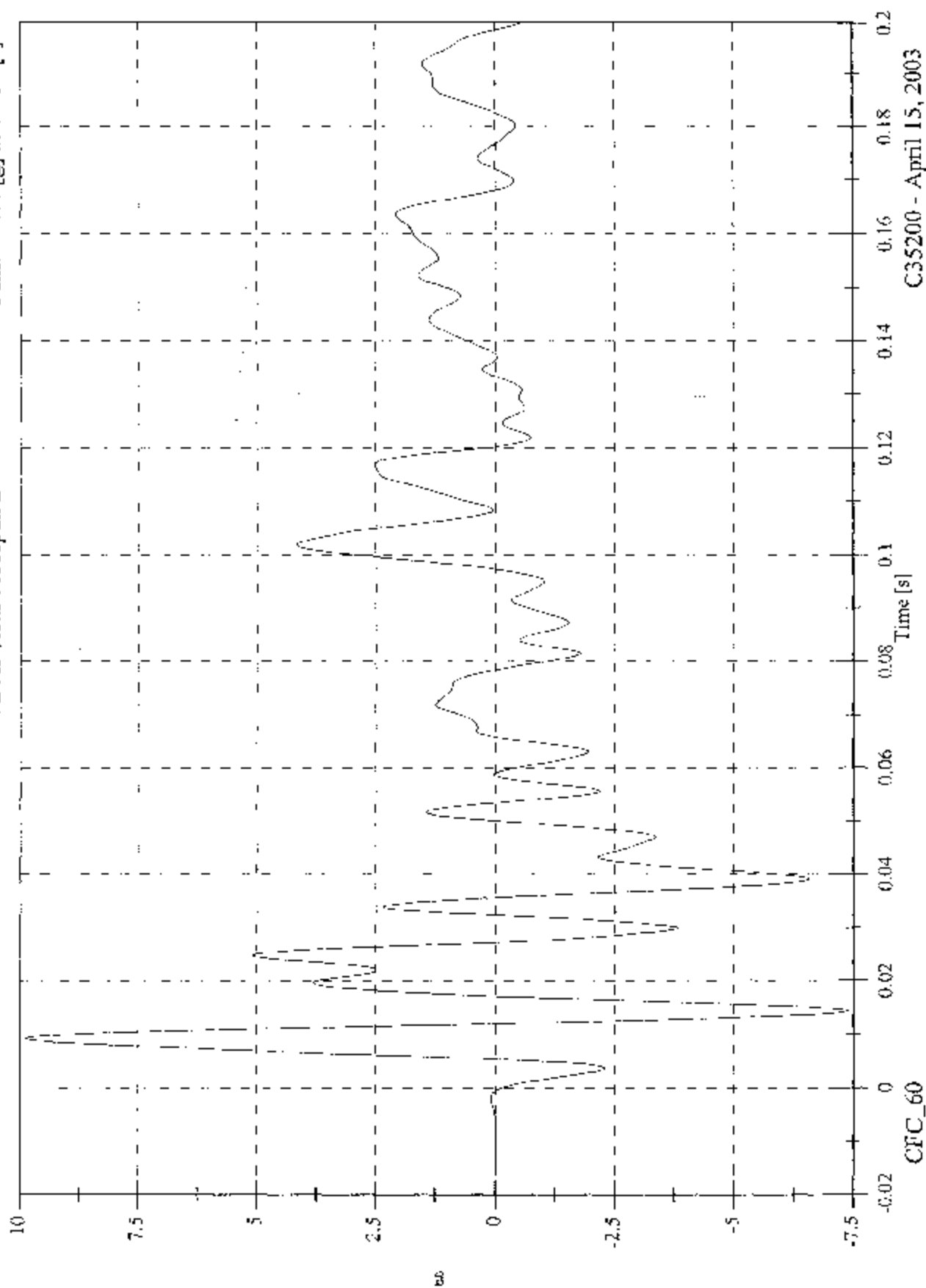


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan z

Max: 9.9 [g] at 0.009 [s]
Min: -7.4 [g] at 0.014 [s]

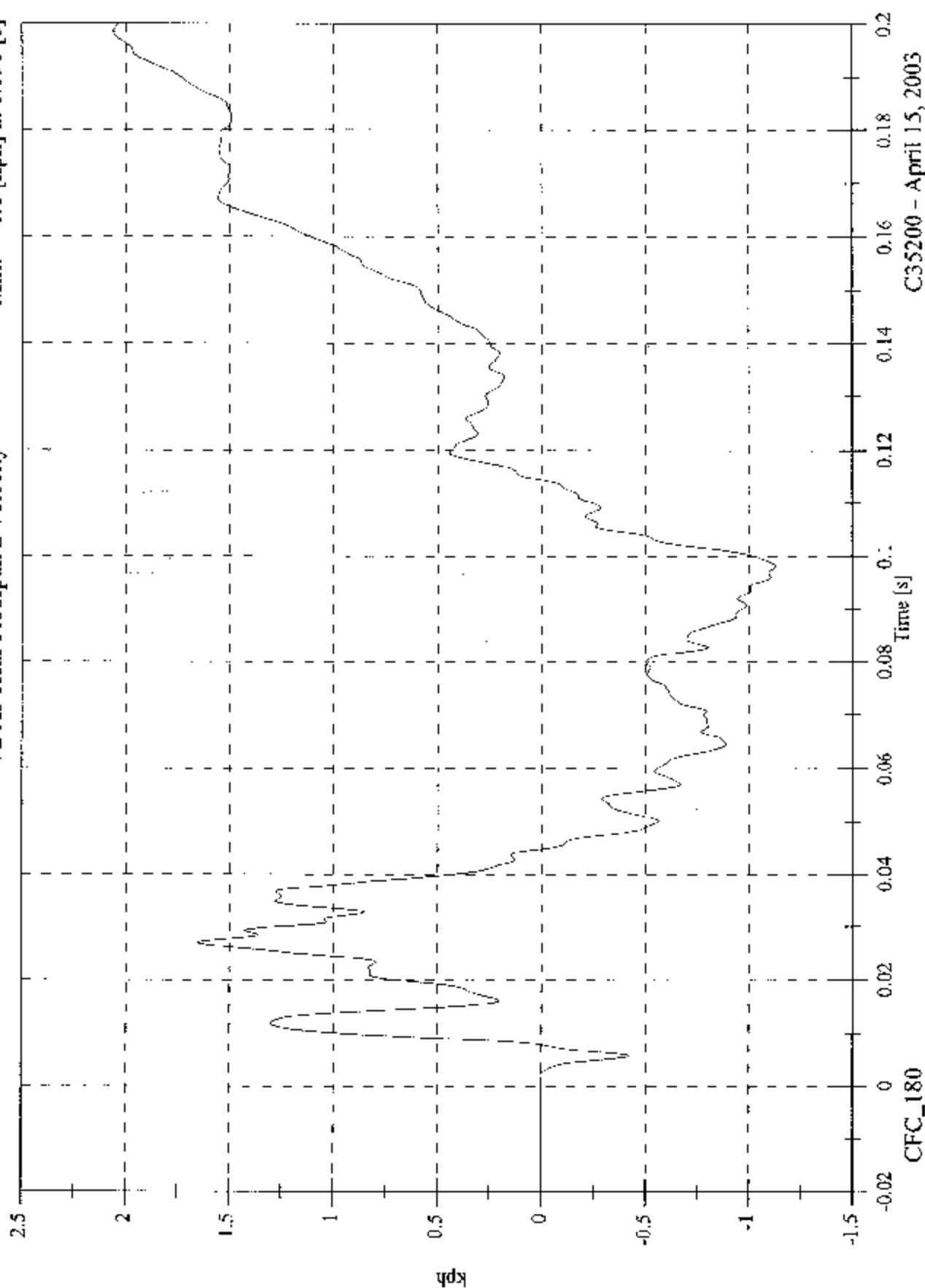


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan z Velocity

Max: 2.1 [kph] at 0.199 [s]
Min: -1.1 [kph] at 0.098 [s]



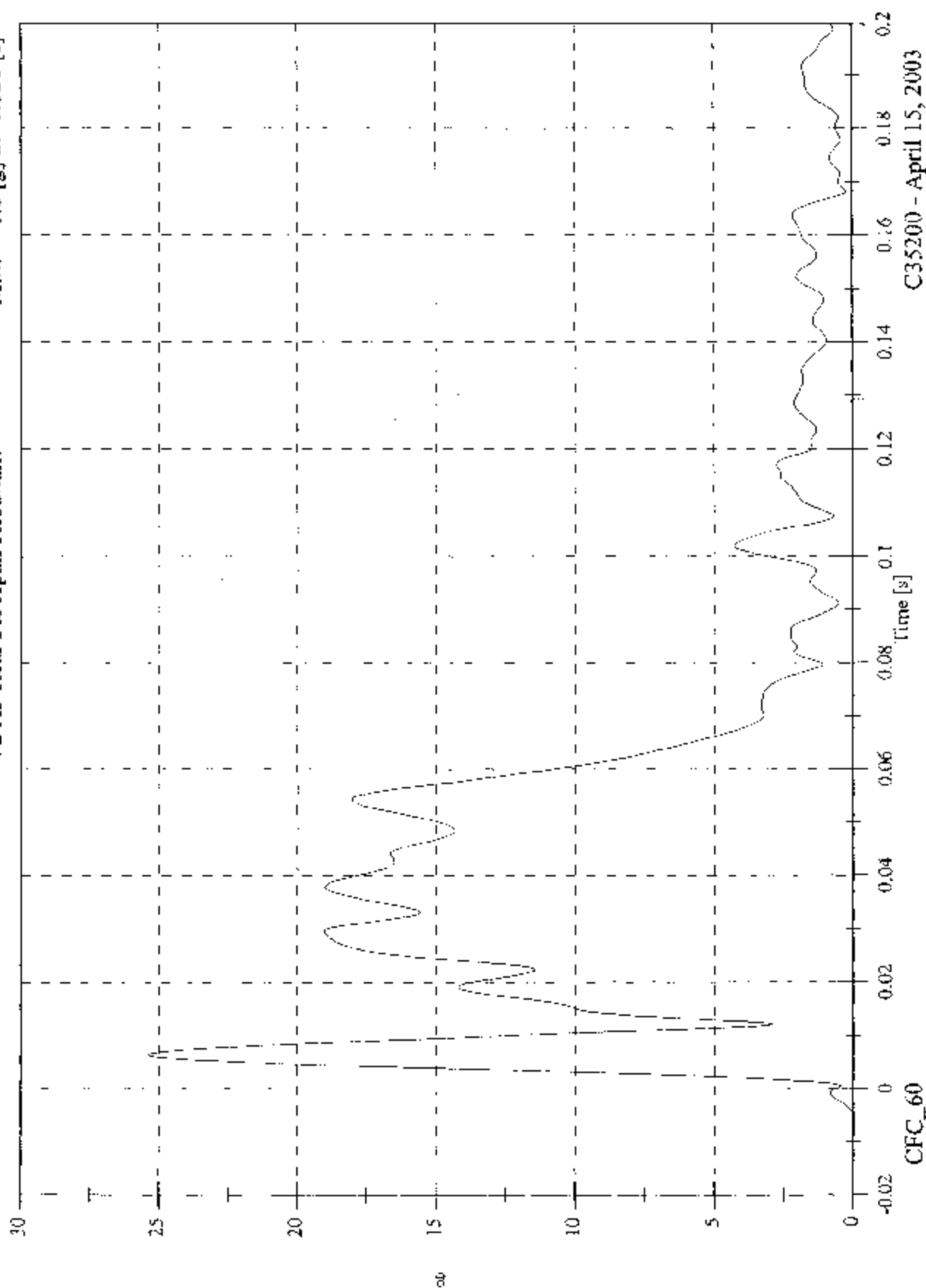
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A3 Rear Floorpan Resultant

Max: 25.4 [g] at 0.006 [s]

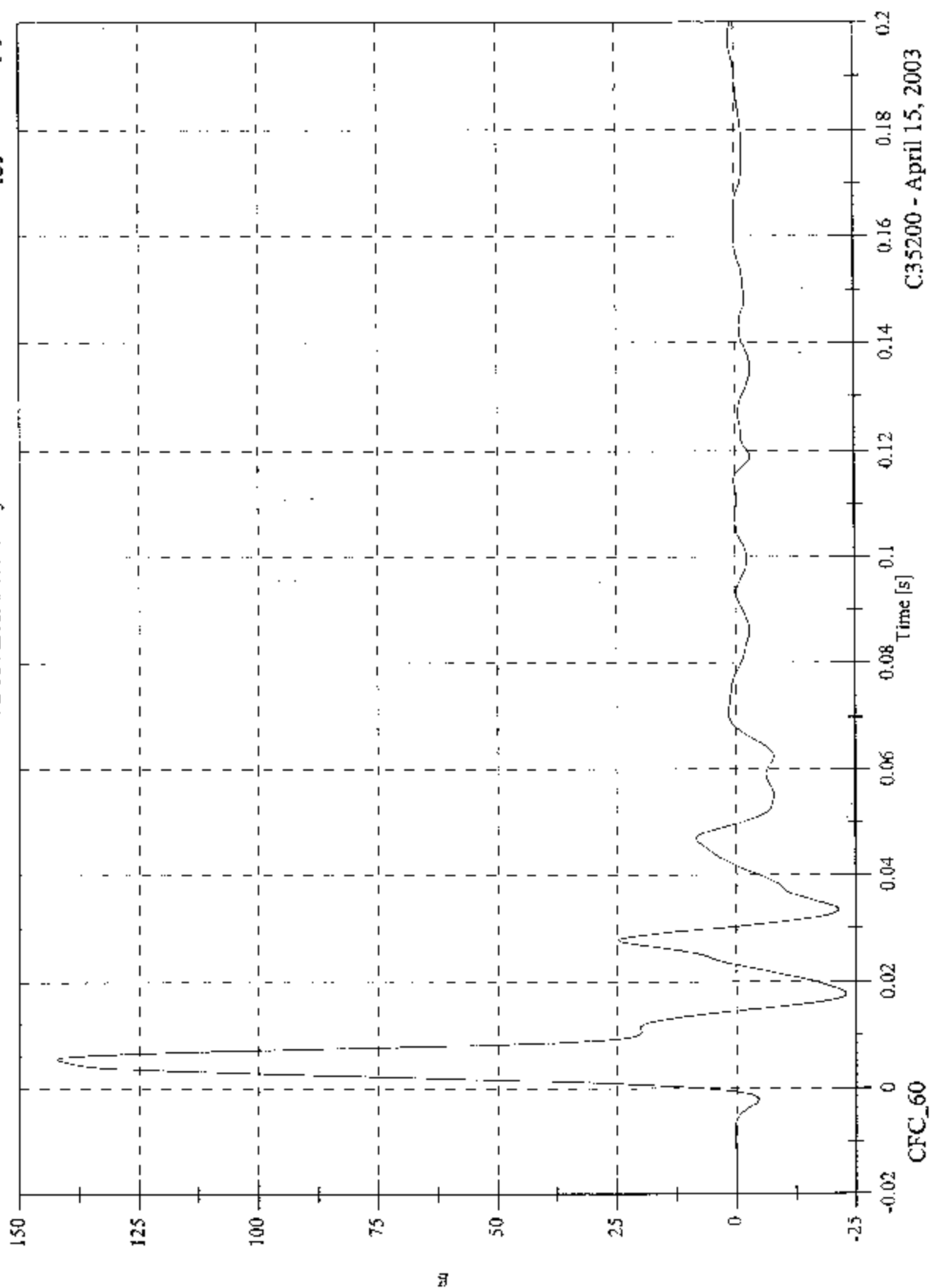
Min: 0.0 [g] at -0.020 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A4 Left Rear Sill y

Max: 142.3 [g] at 0.006 [s]
Min: -22.9 [g] at 0.018 [s]



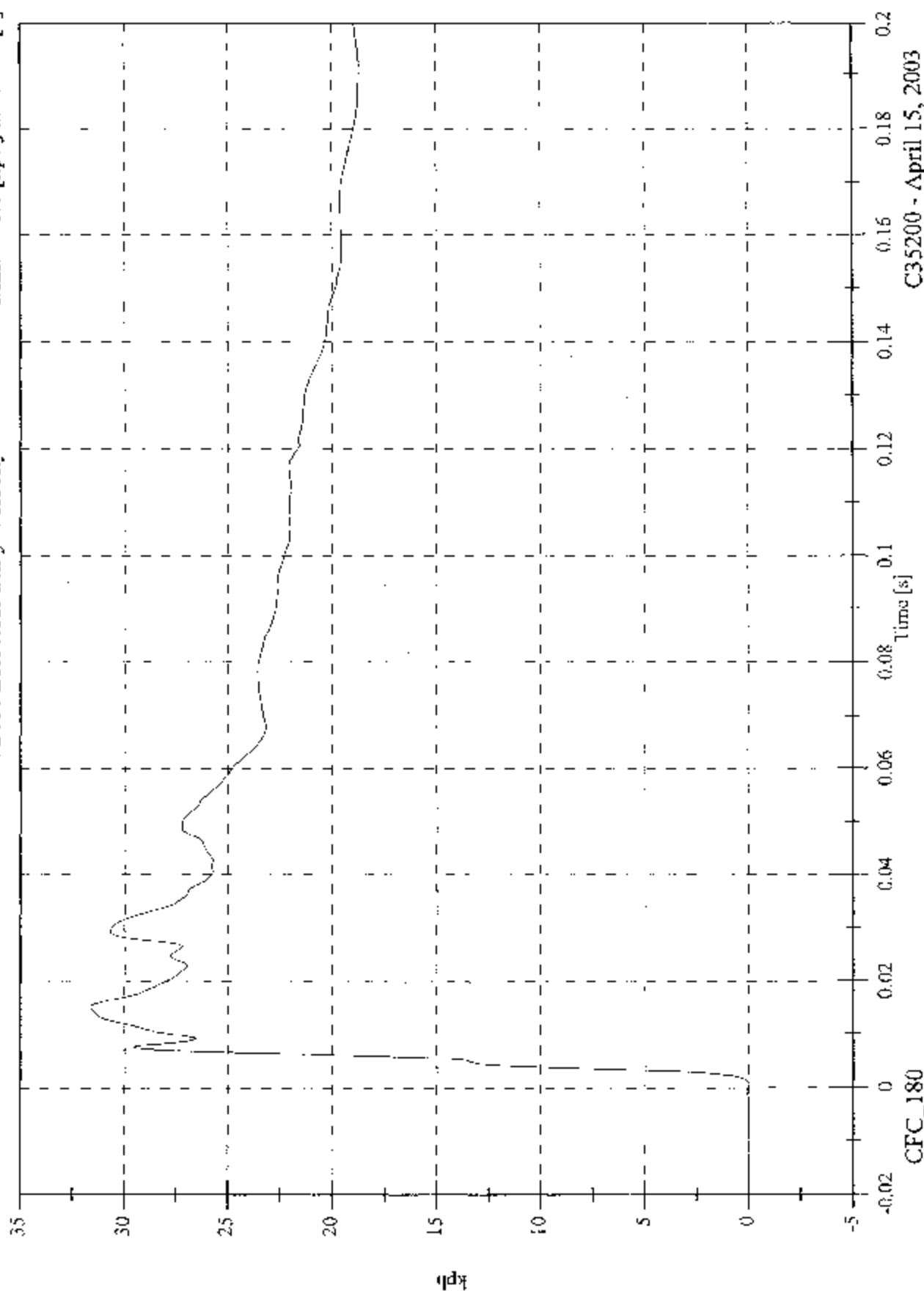
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 31.6 [kph] at 0.015 [s]

Min: -0.0 [kph] at -0.017 [s]

V2 A4 Left Rear Sill y Velocity



CFC_180

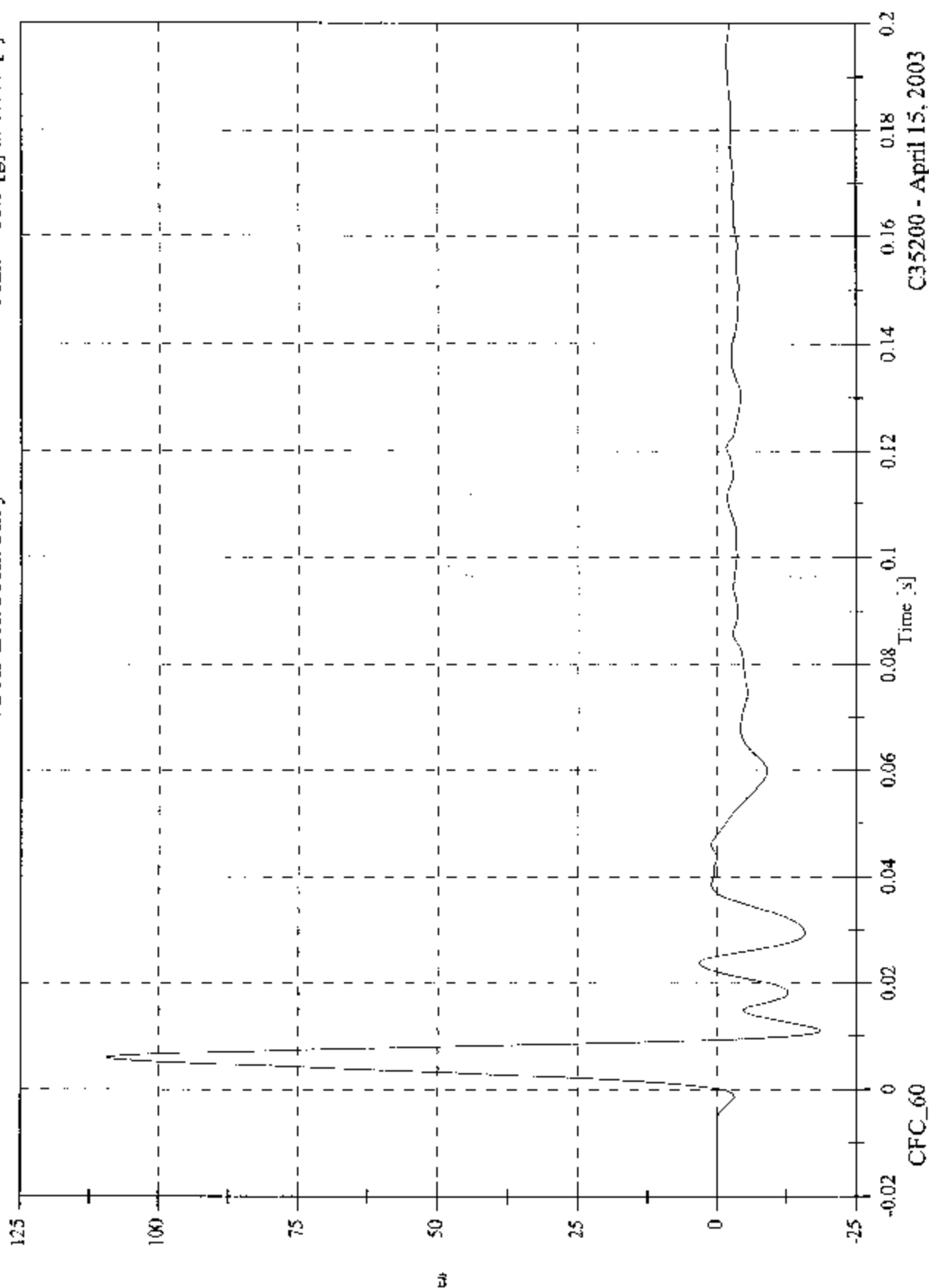
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 109.6 [g] at 0.006 [s]

Min: -18.5 [g] at 0.011 [s]

V2 A5 Left Front Sill y

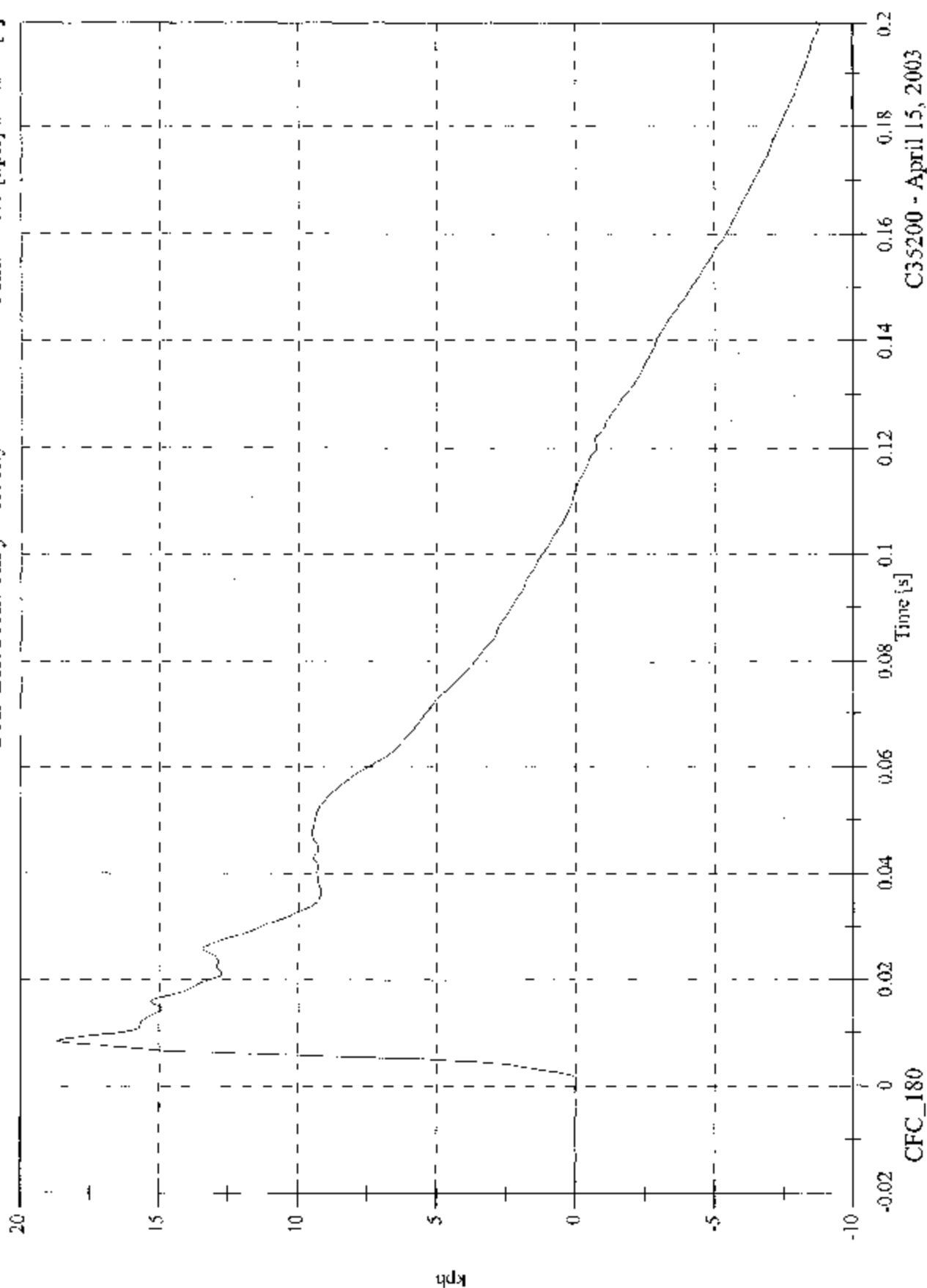


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A5 Left Front Sill y Velocity

Max: 18.7 [kph] at 0.009 [s]
Min: -8.8 [kph] at 0.200 [s]

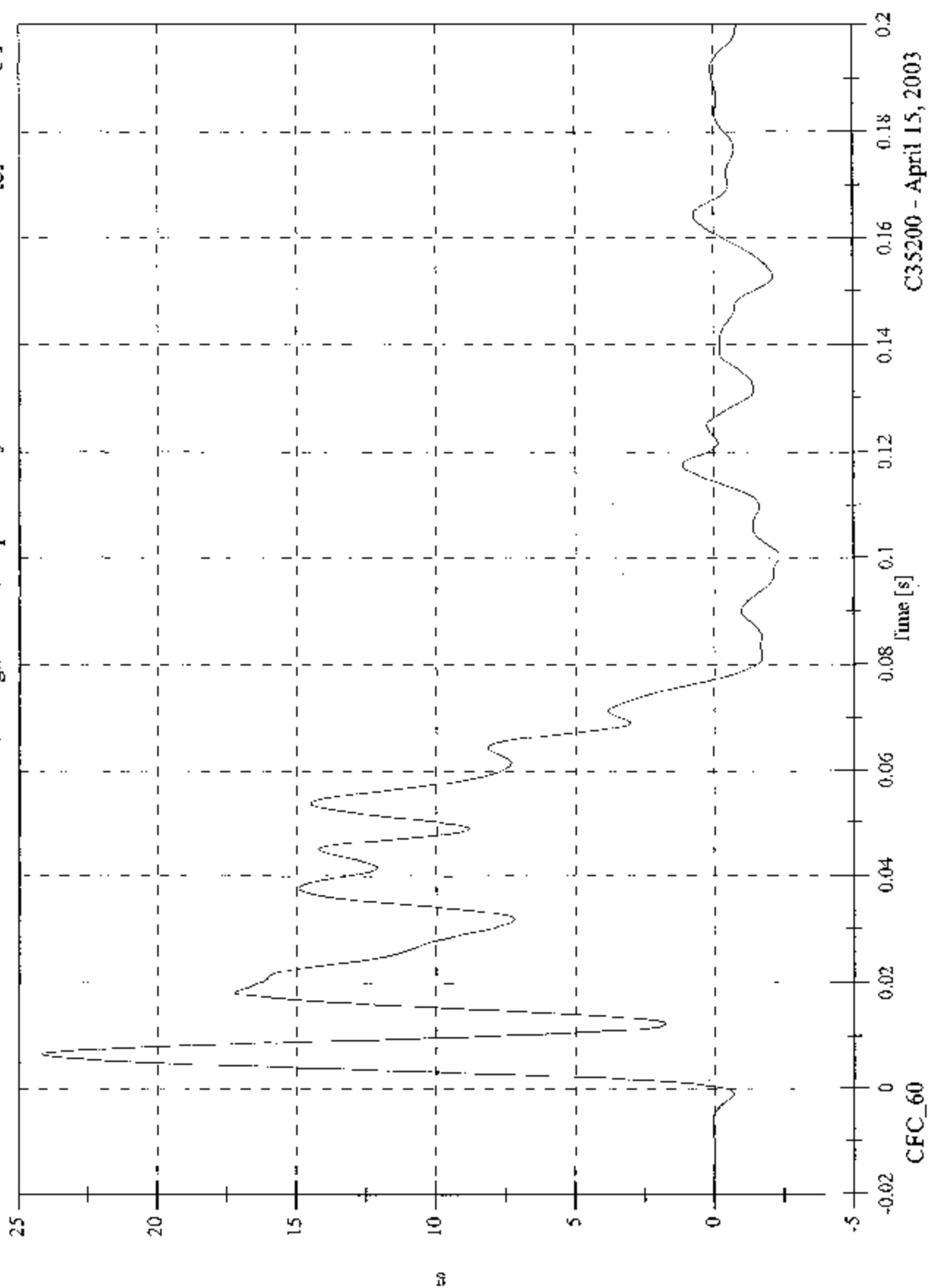


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A7 Right Rear Compartment y

Max: 24.2 [g] at 0.007 [s]
Min: -2.3 [g] at 0.100 [s]



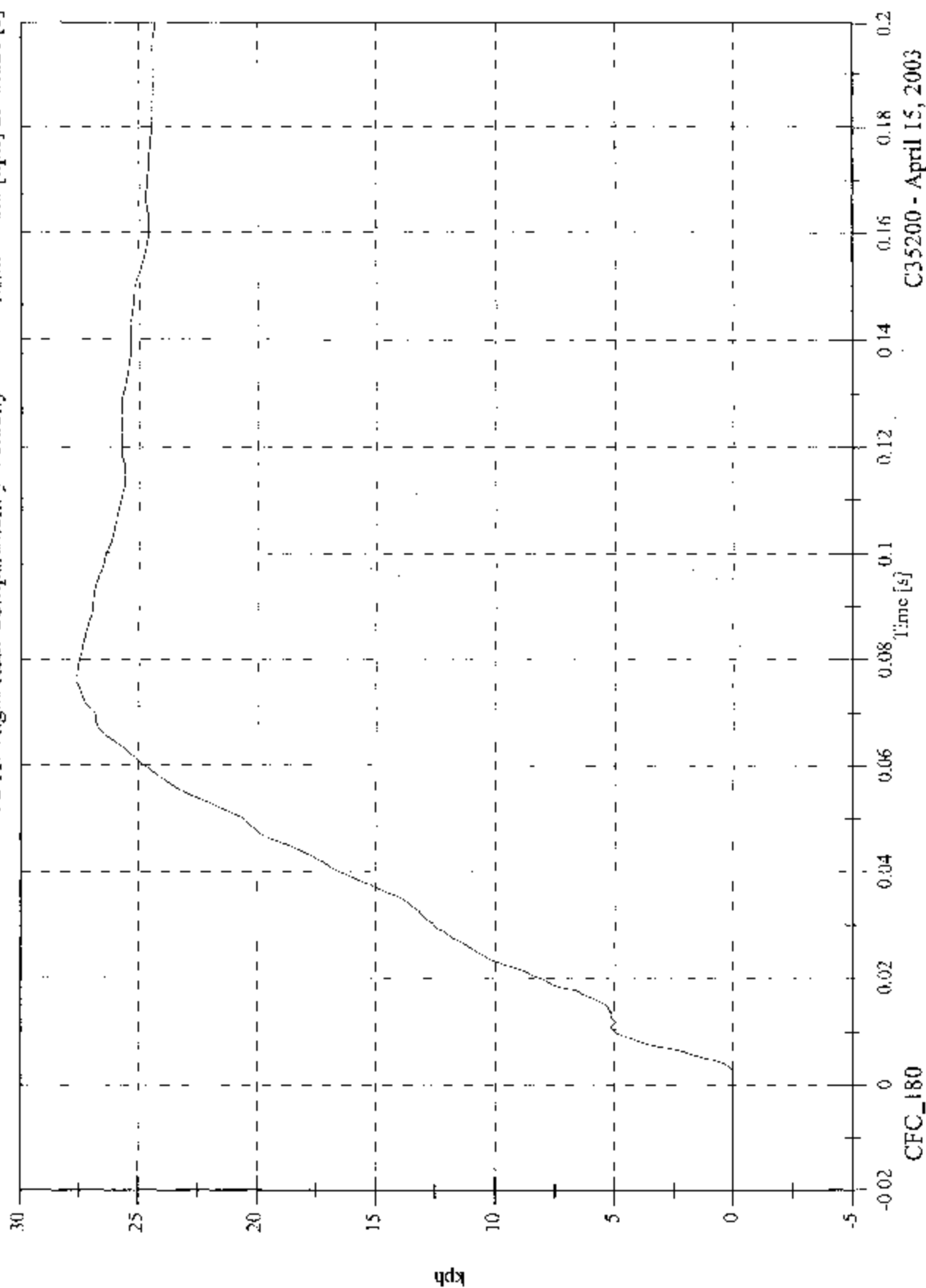
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 27.6 [kph] at 0.077 [s]

Min: -0.0 [kph] at -0.020 [s]

V2 A7 Right Rear Compartment y Velocity

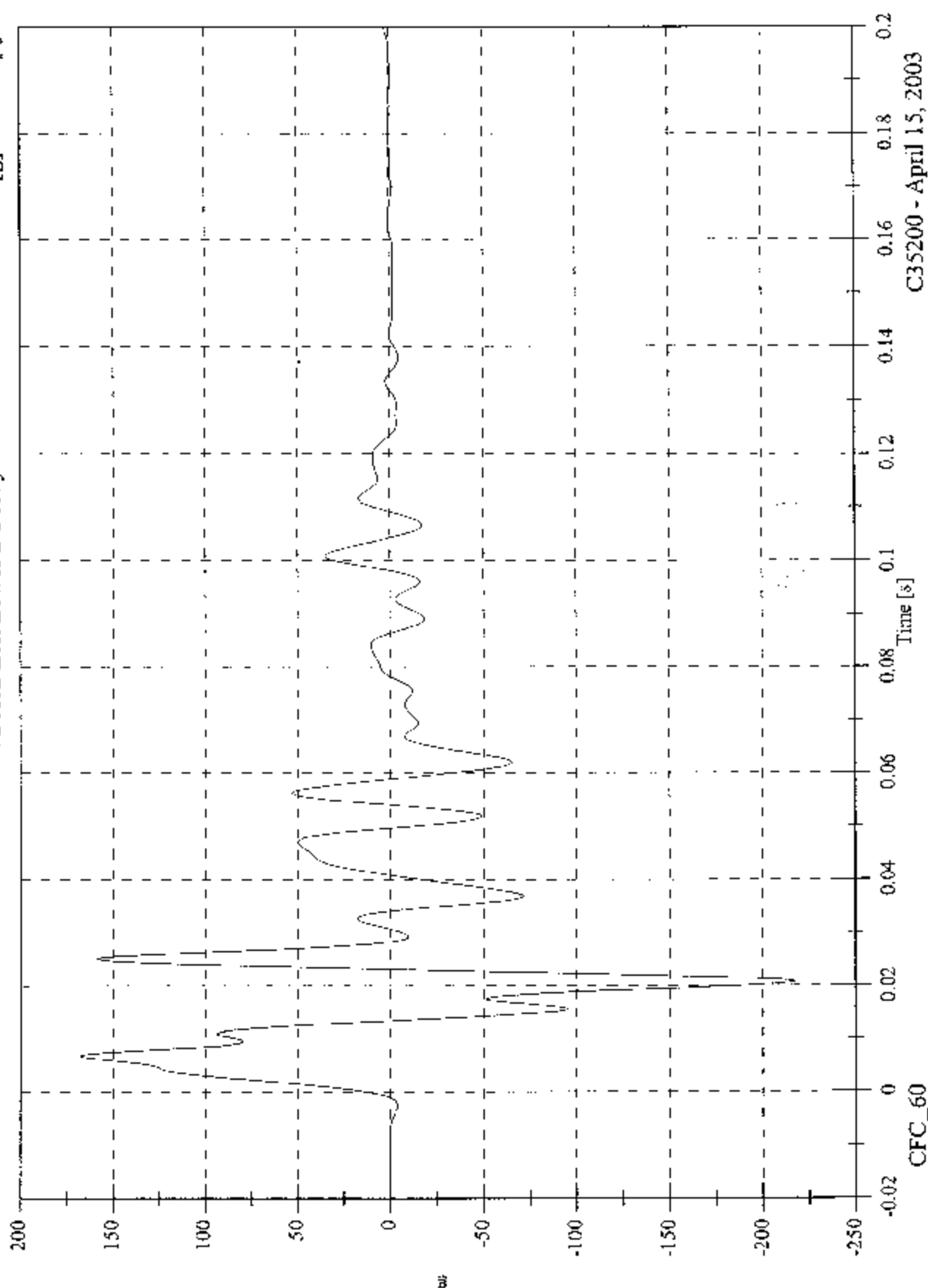


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A12 Left Lower B Post y

Max: 167.3 [g] at 0.007 [s]
Min: -217.2 [g] at 0.021 [s]



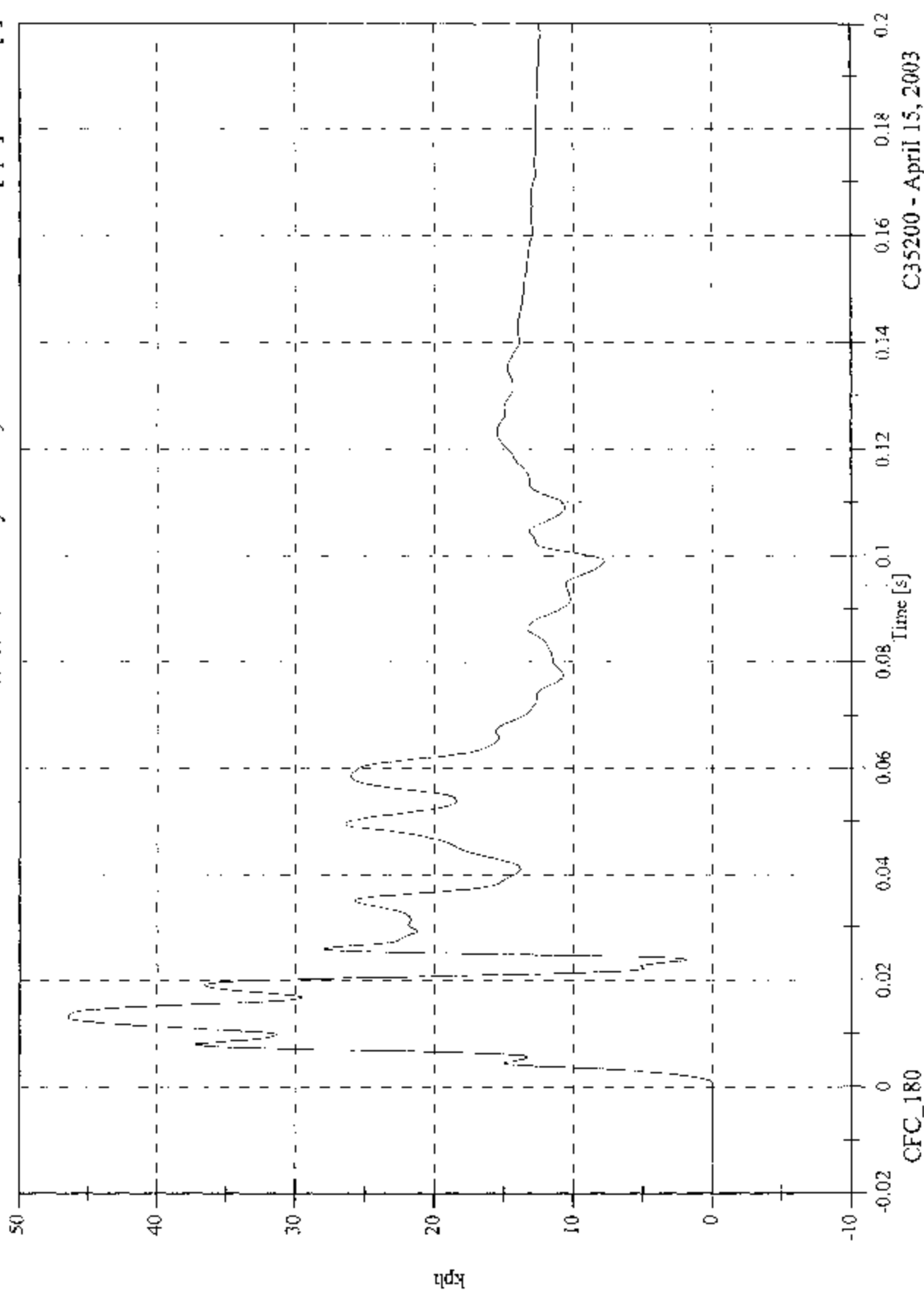
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 46.5 [kph] at 0.013 [s]

Min: -0.0 [kph] at 0.001 [s]

V2 A12 Left Lower B Post y Velocity



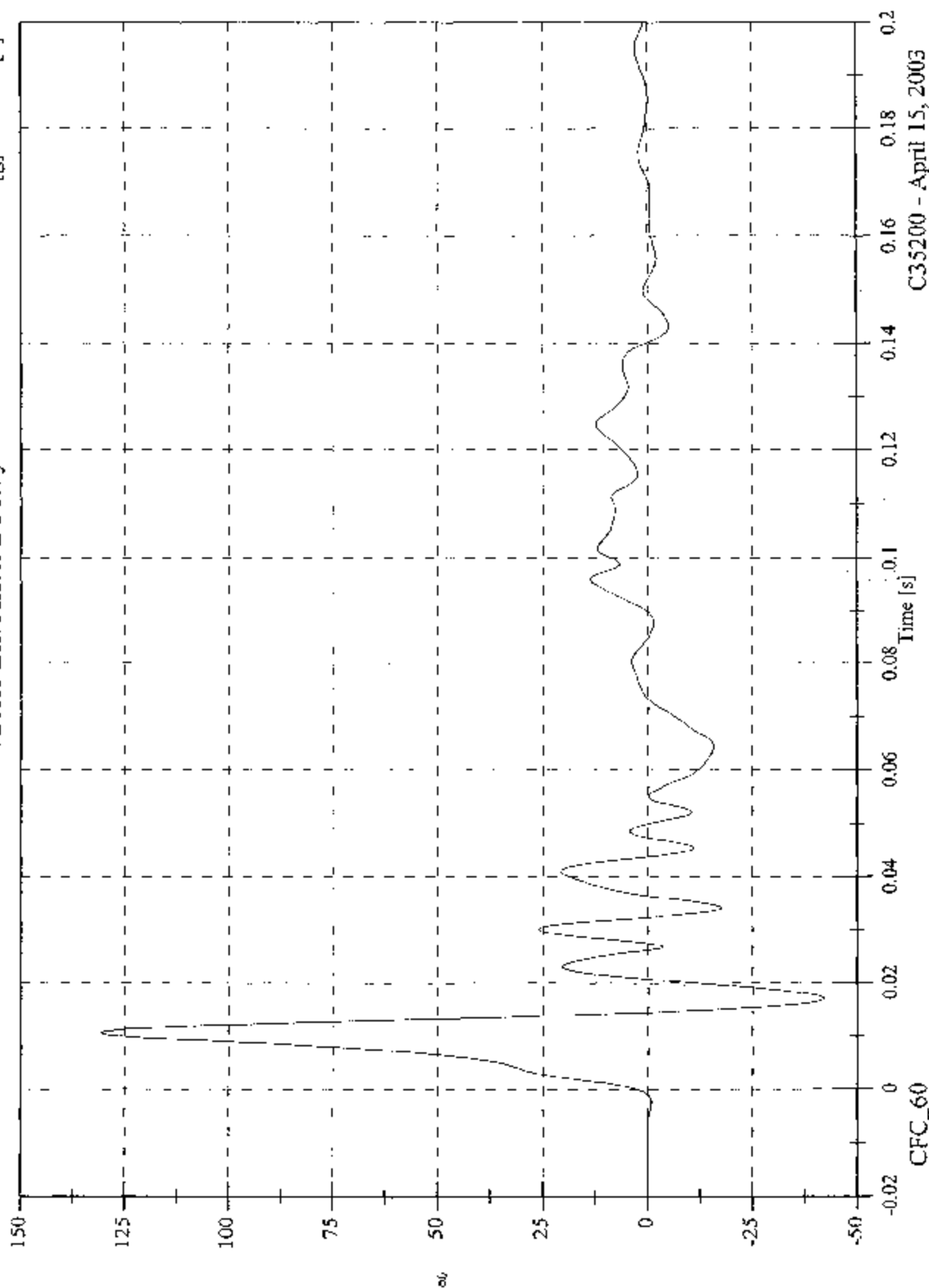
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A13 Left Middle B Post y

Max: 130.6 [g] at 0.010 [s]

Min: -42.0 [g] at 0.017 [s]



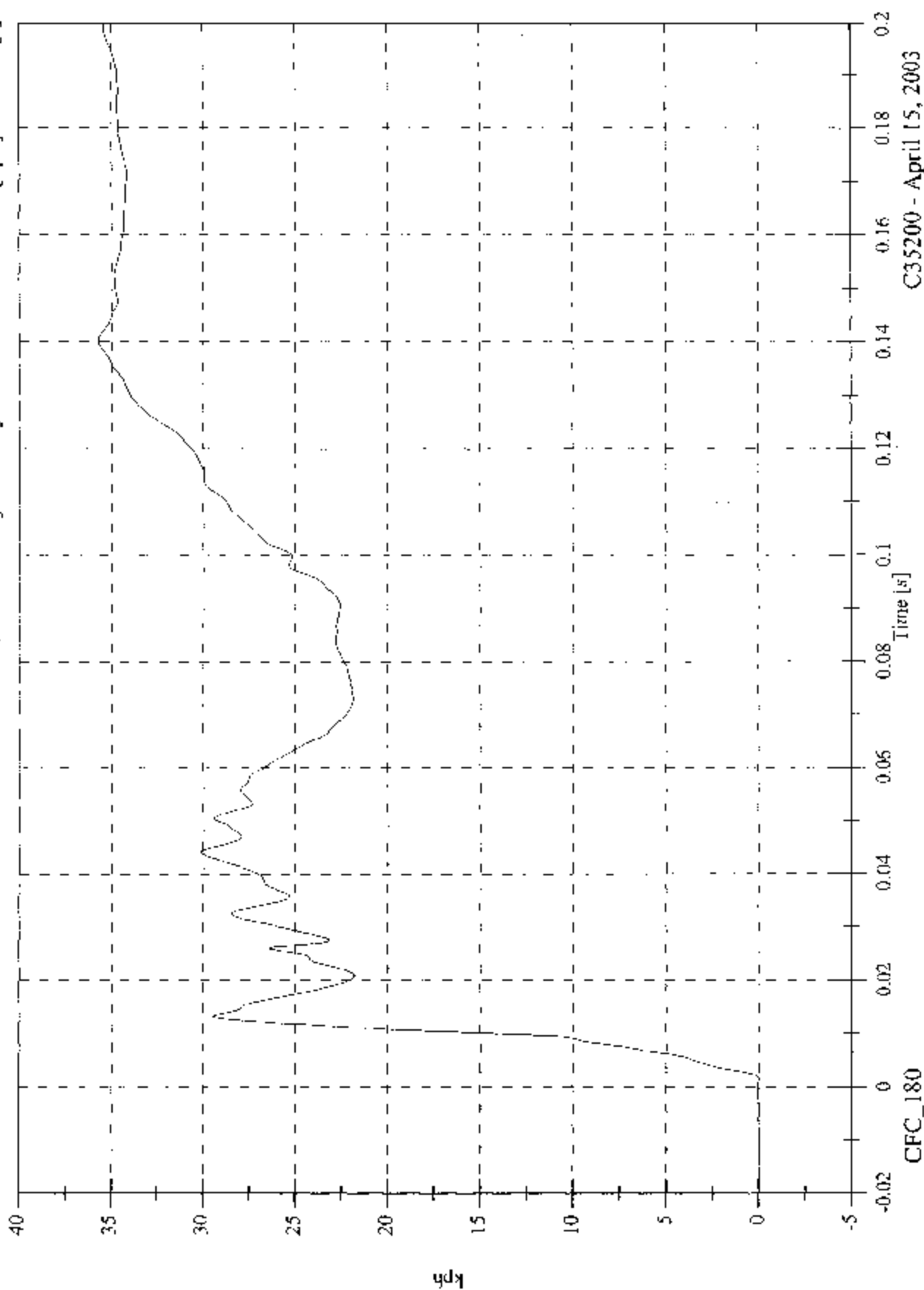
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A13 Left Middle B Post y Velocity

Max: 35.7 [kph] at 0.140 [s]

Min: -0.0 [kph] at 0.001 [s]



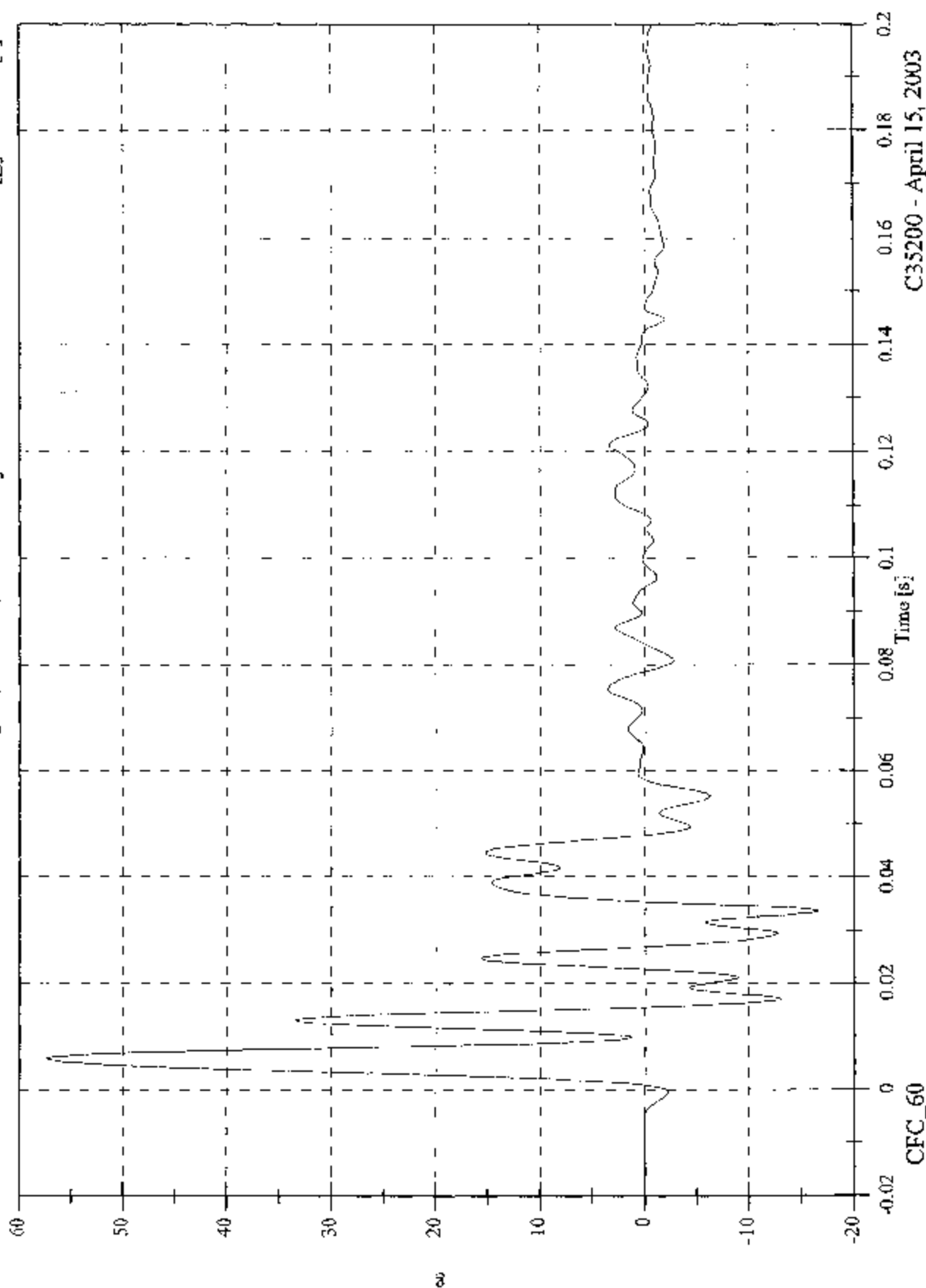
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A14 Left Lower A Post y

Max: 57.3 [g] at 0.006 [s]

Min: -16.5 [g] at 0.034 [s]

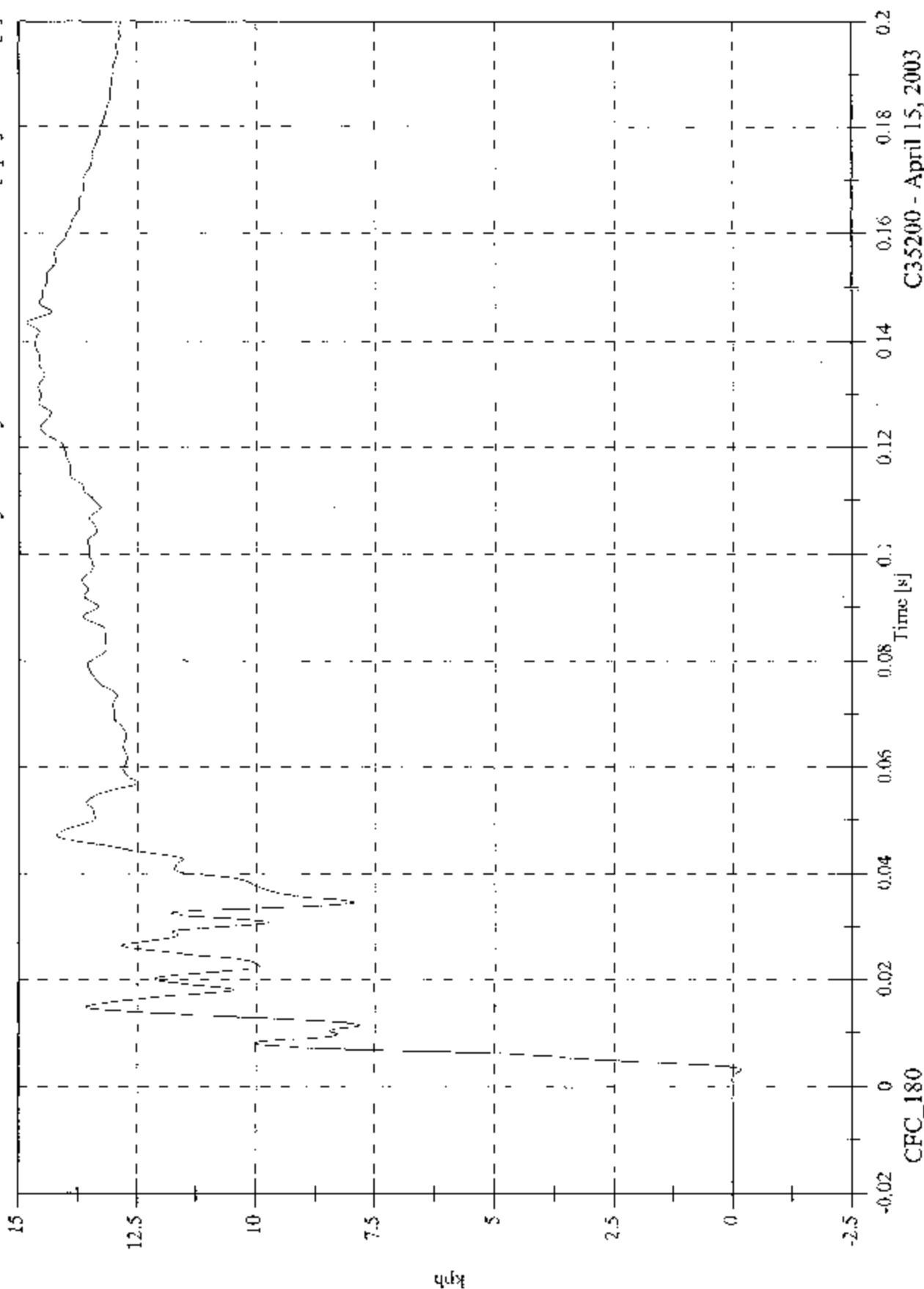


C35200 - April 15, 2003

2003 FMYSS 214D Test 5 2003 Nissan Murano SUV

Max: 14.8 [kph] at 0.143 [s]
 Min: -0.2 [kph] at 0.003 [s]

V2 A14 Left Lower A Post y Velocity



CFC_180

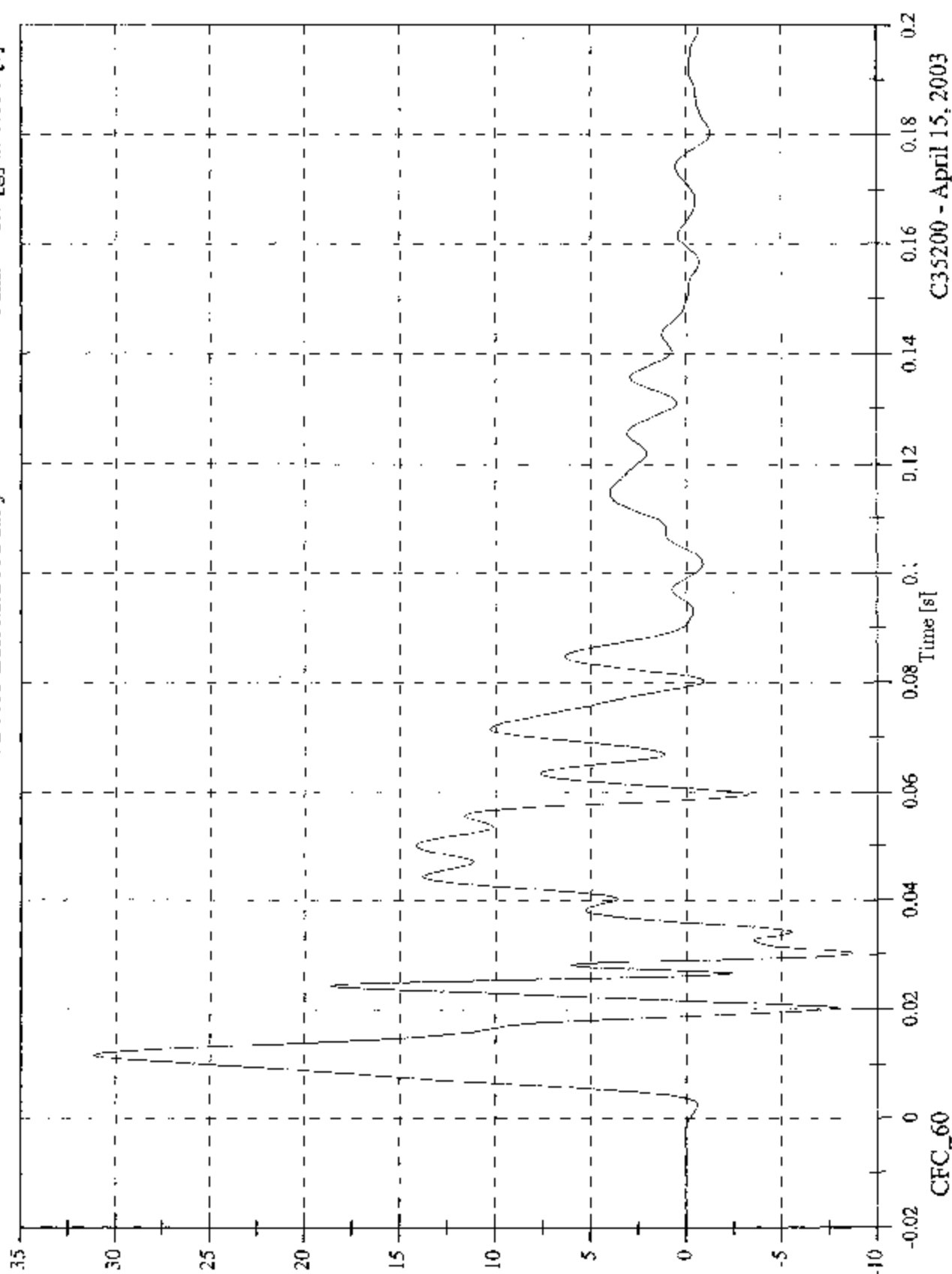
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A15 Left Mid A Post y

Max: 31.2 [g] at 0.012 [s]

Min: -8.7 [g] at 0.030 [s]

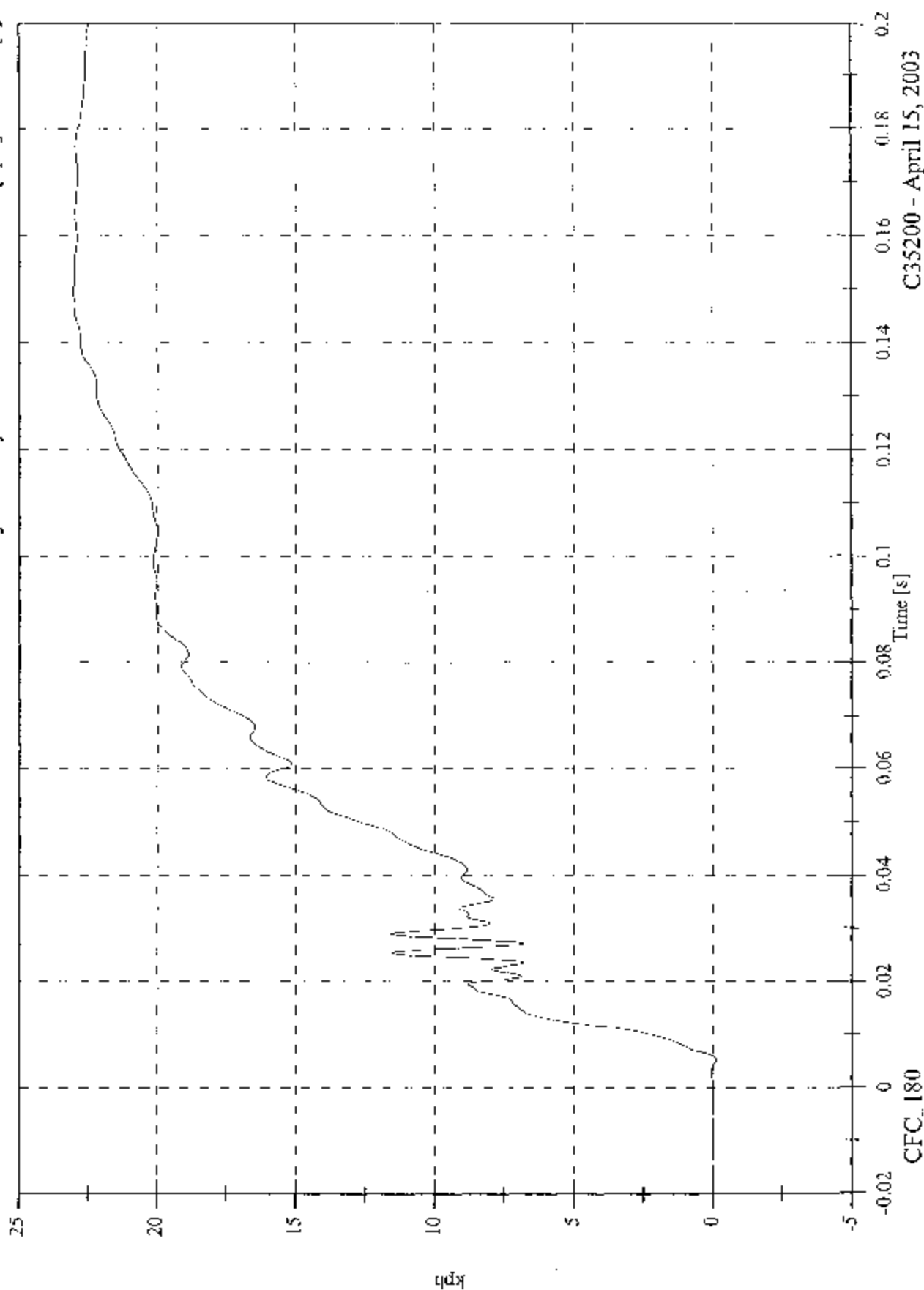


C35200 - April 15, 2003

2003 FNVSS 214D Test 5 2003 Nissan Murano SUV

V2 A15 Left Mid A Post y Velocity

Max: 23.0 [kph] at 0.150 [s]
Min: -0.1 [kph] at 0.005 [s]

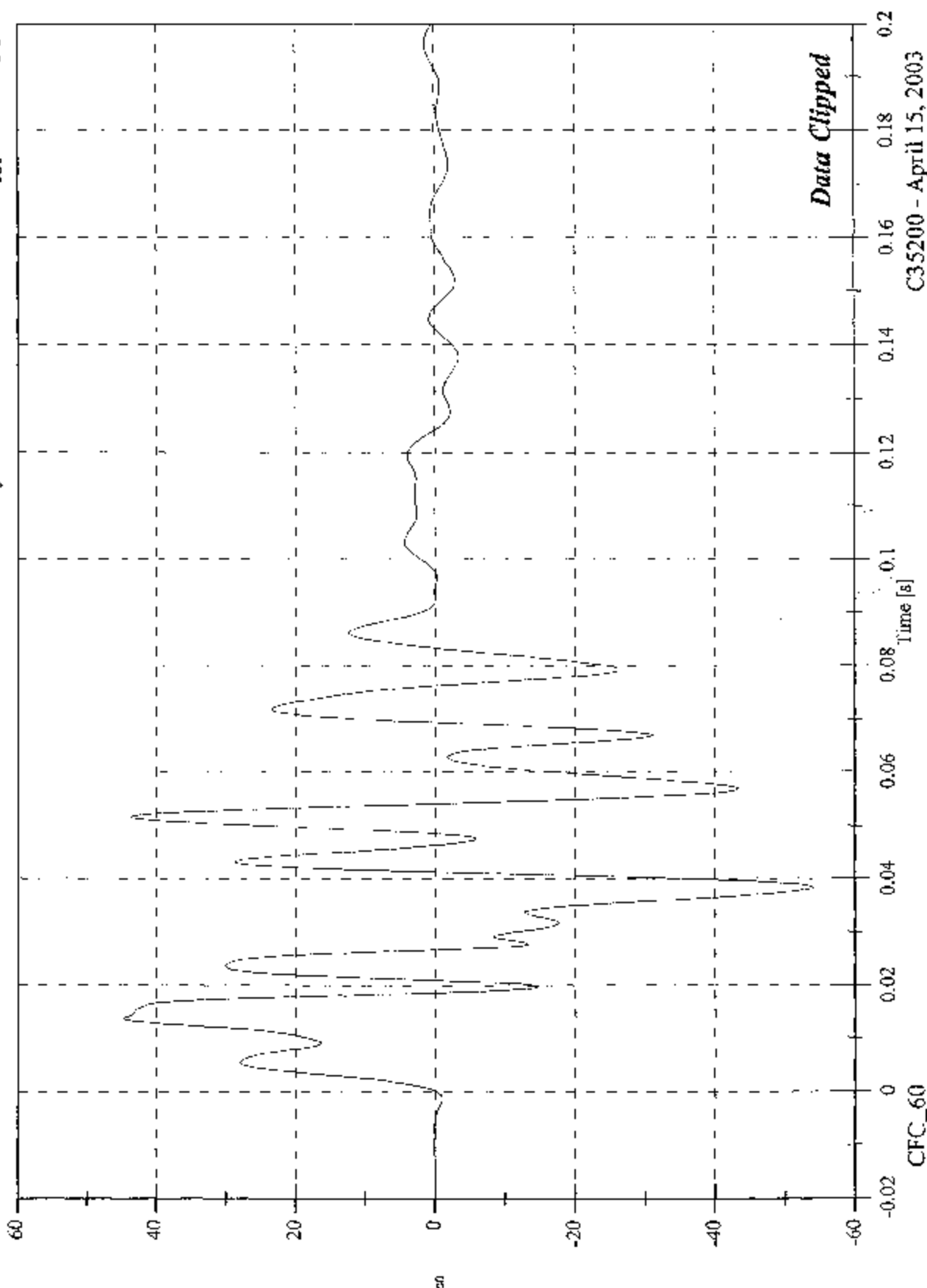


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A16 Front Seat Track y

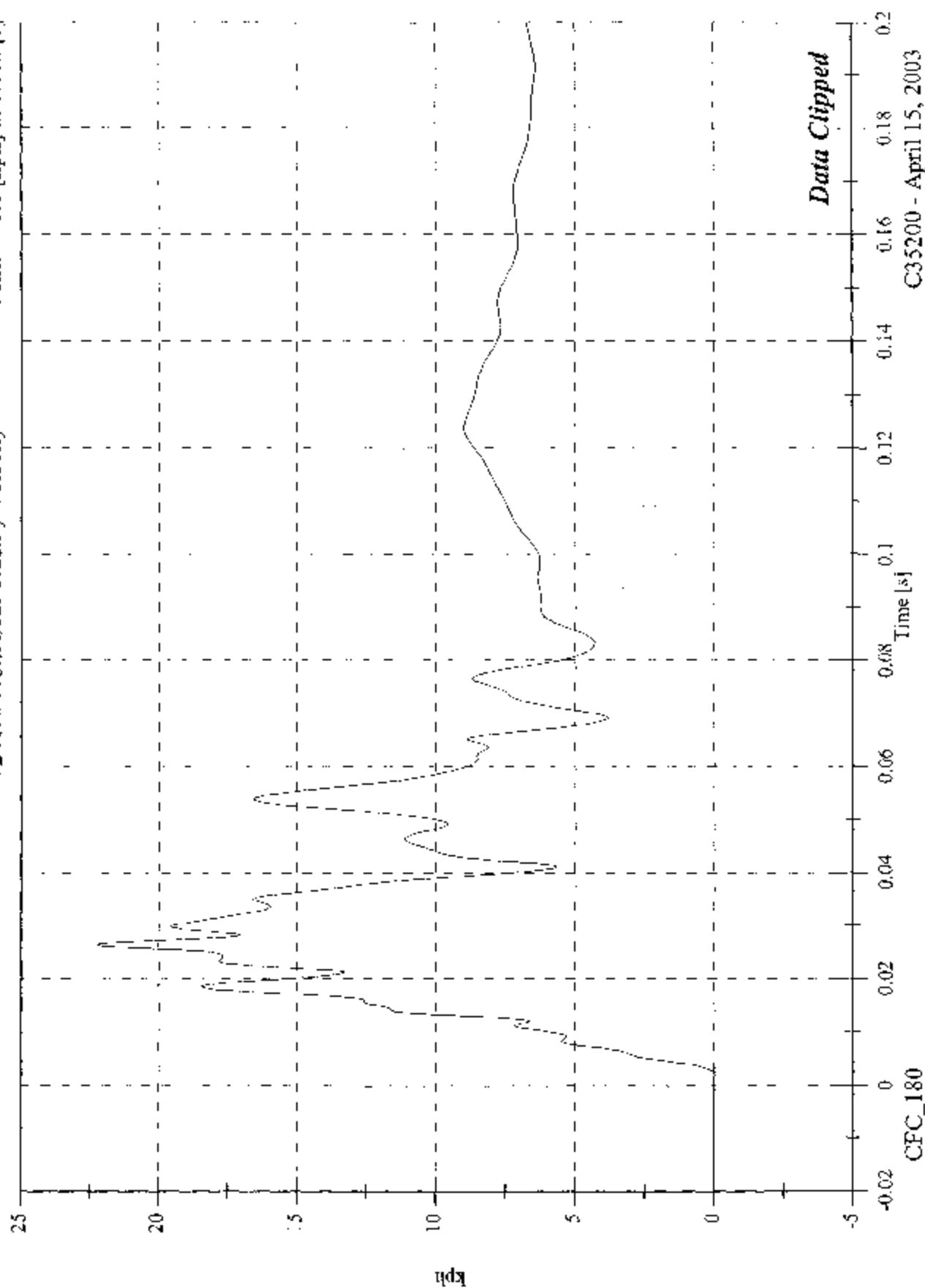
Max: 44.8 [g] at 0.014 [s]
Min: -54.1 [g] at 0.038 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A16 Front Seat Track y Velocity

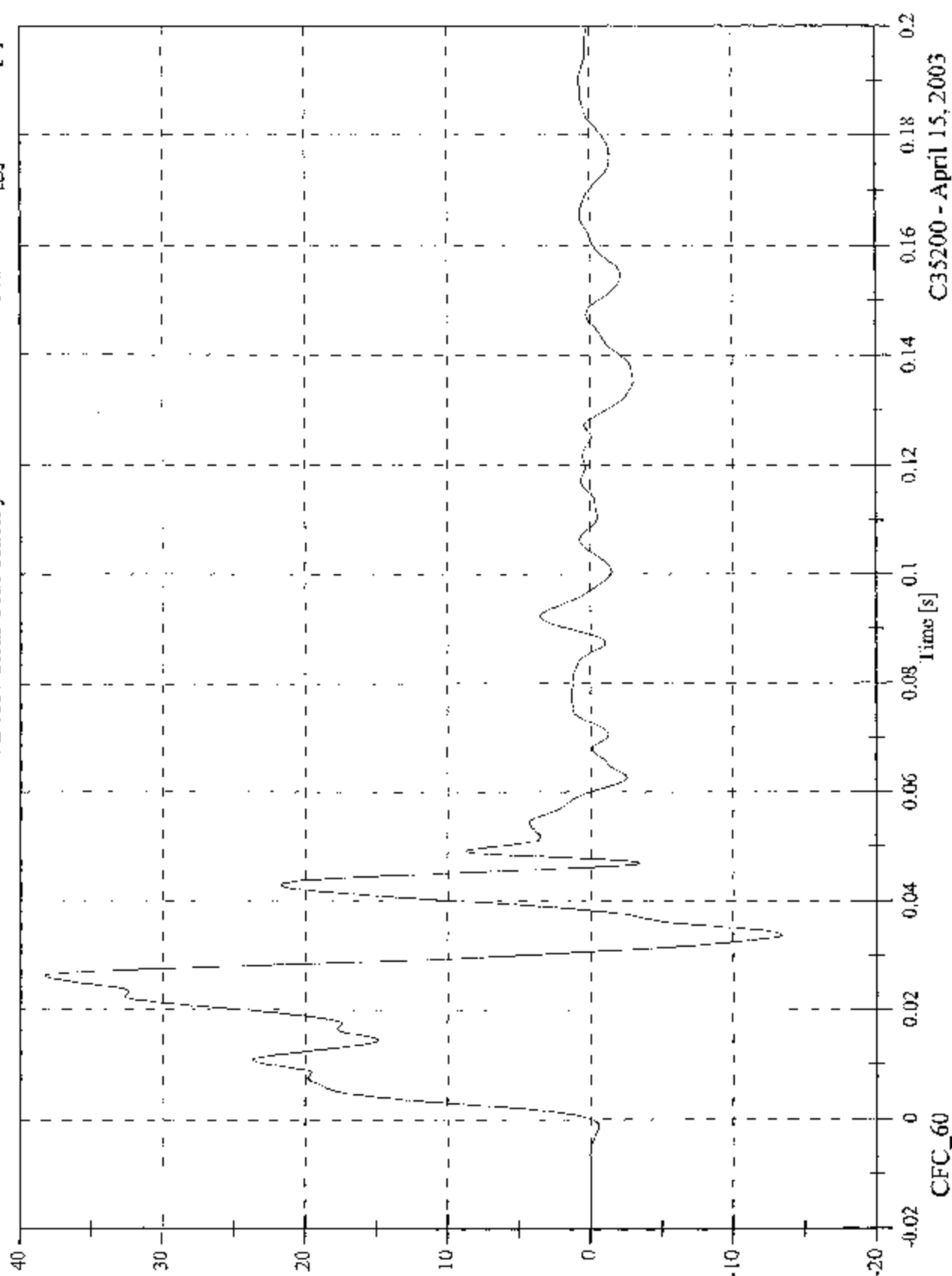
Max: 22.2 [kph] at 0.026 [s]
Min: -0.0 [kph] at 0.002 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A17 Rear Seat Track y

Max: 38.3 [g] at 0.026 [s]
Min: -13.4 [g] at 0.034 [s]

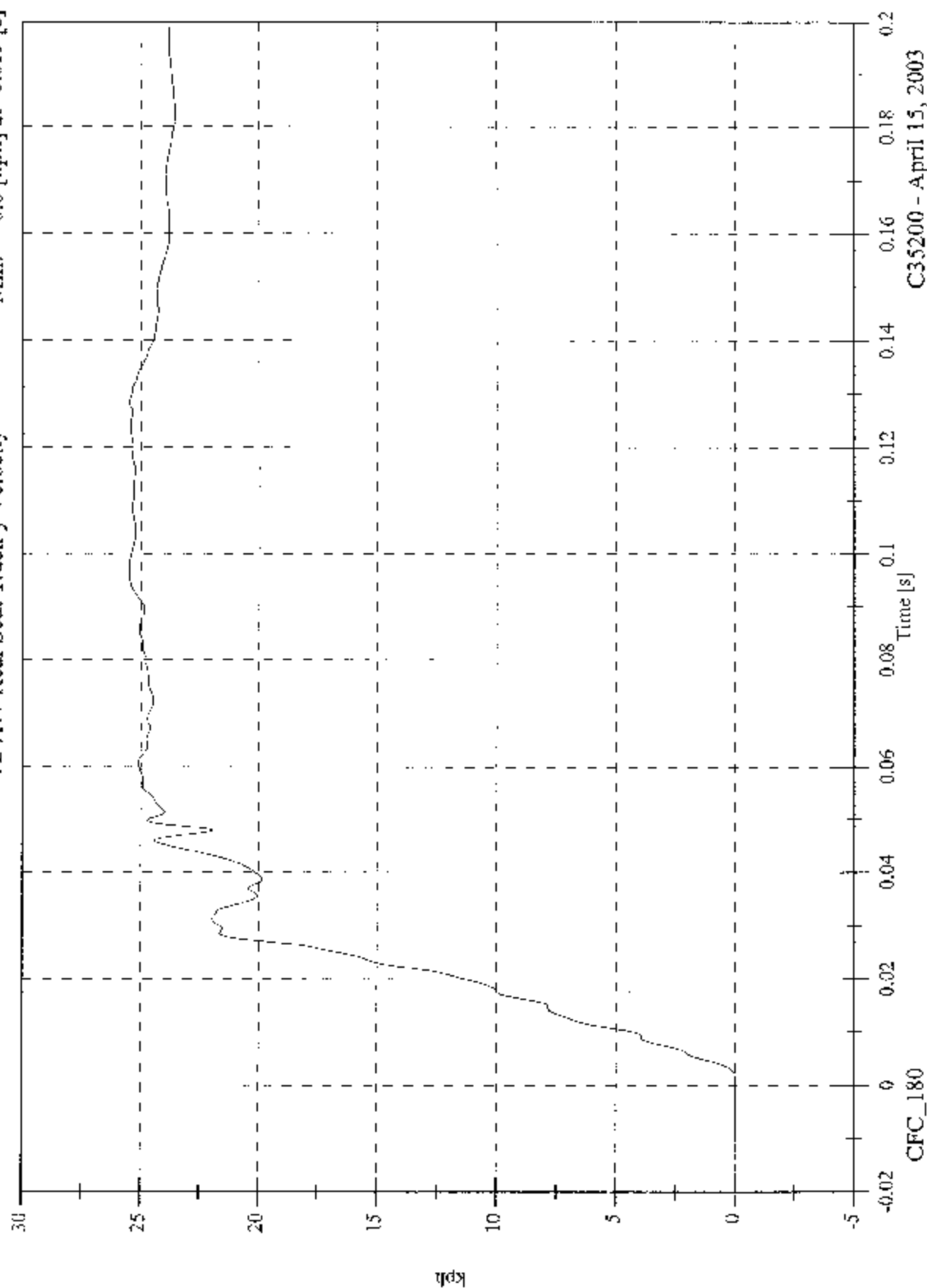


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 25.5 [kph] at 0.128 [s]
 Min: -0.0 [kph] at -0.019 [s]

V2 A17 Rear Seat Track y Velocity

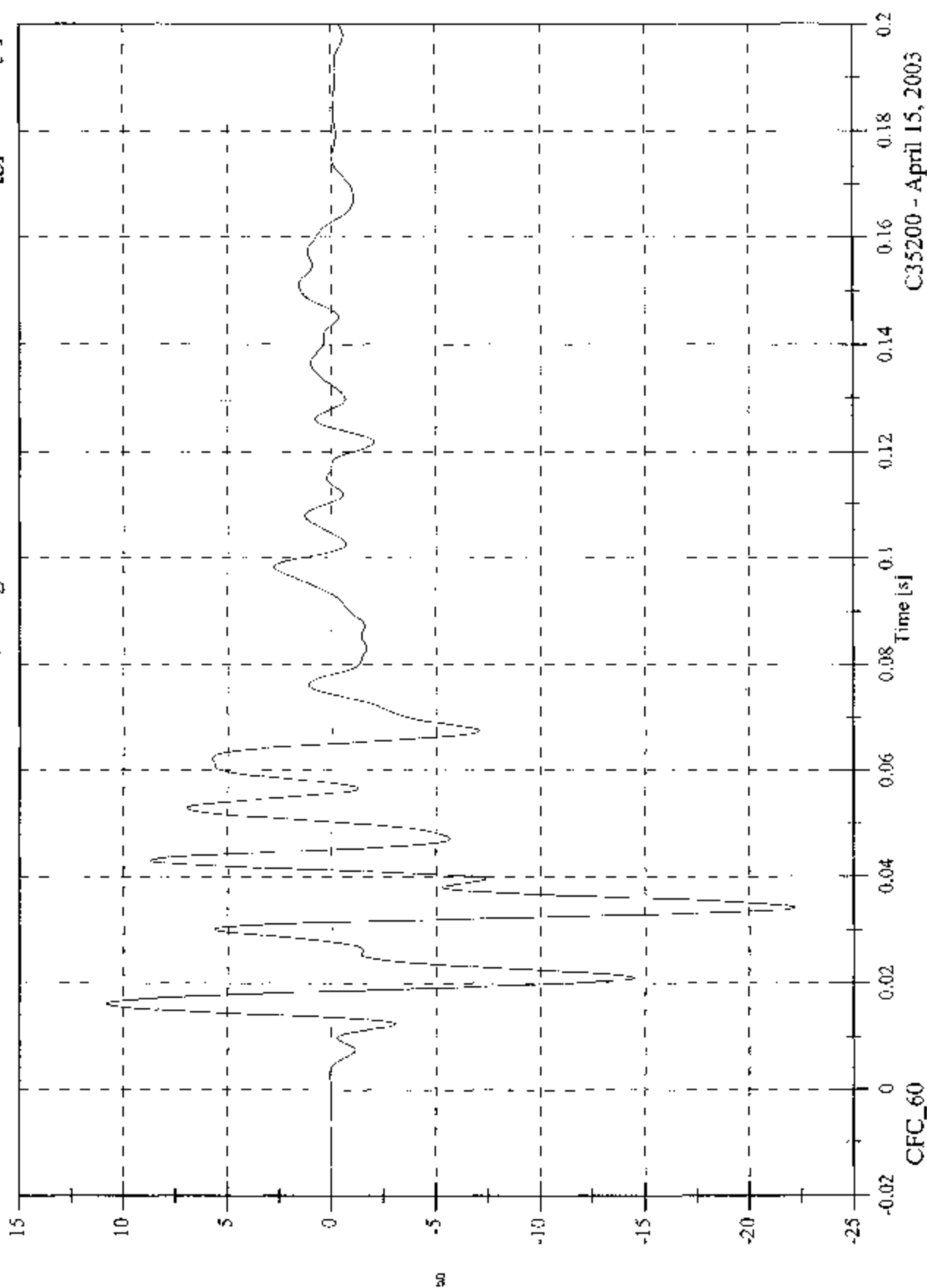


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A18 Target CG x

Max: 10.9 [g] at 0.016 [s]
Min: -22.2 [g] at 0.034 [s]

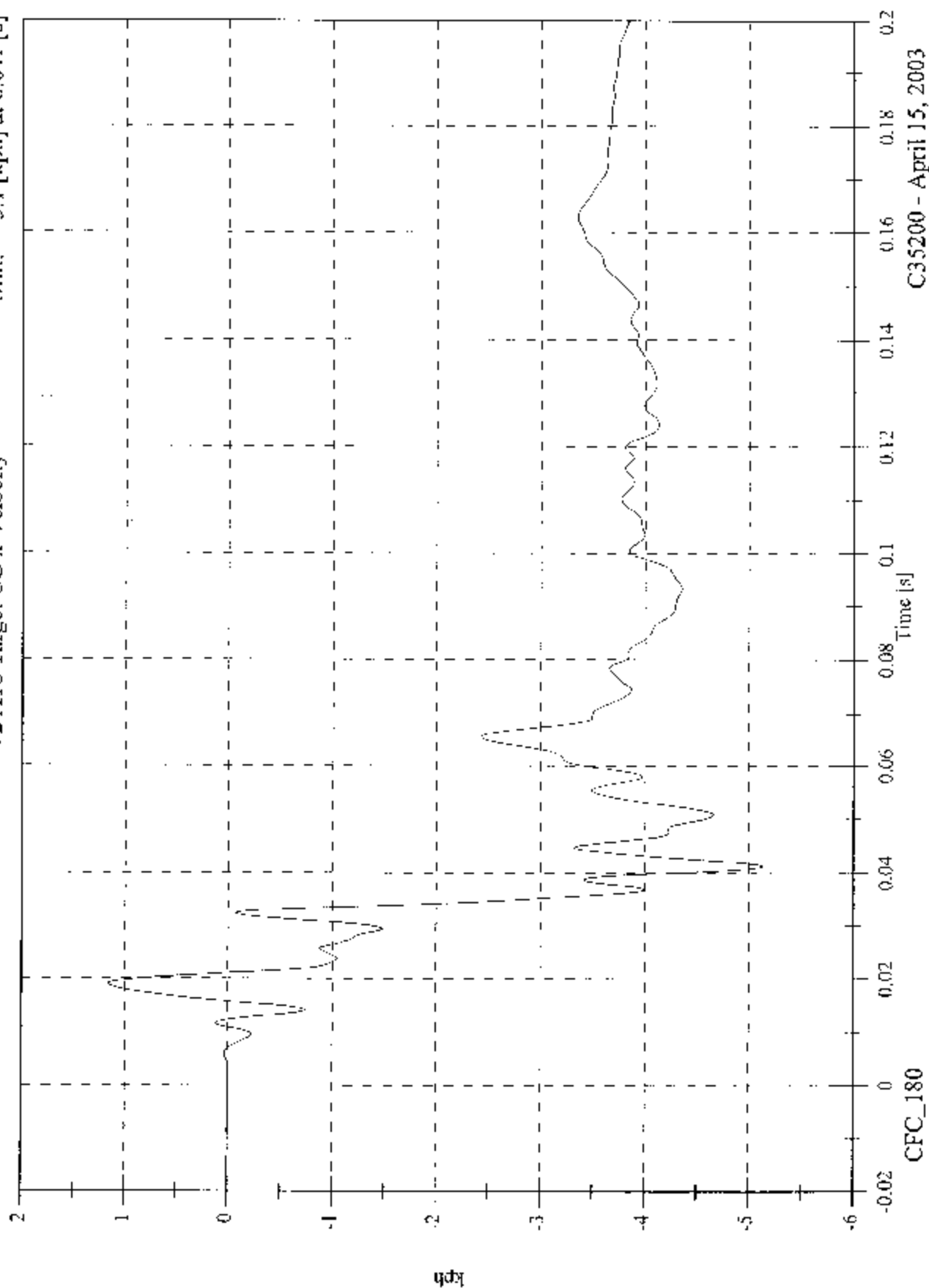


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2 A18 Target CG x Velocity

Max: 1.2 [kph] at 0.019 [s]
Min: -5.1 [kph] at 0.041 [s]



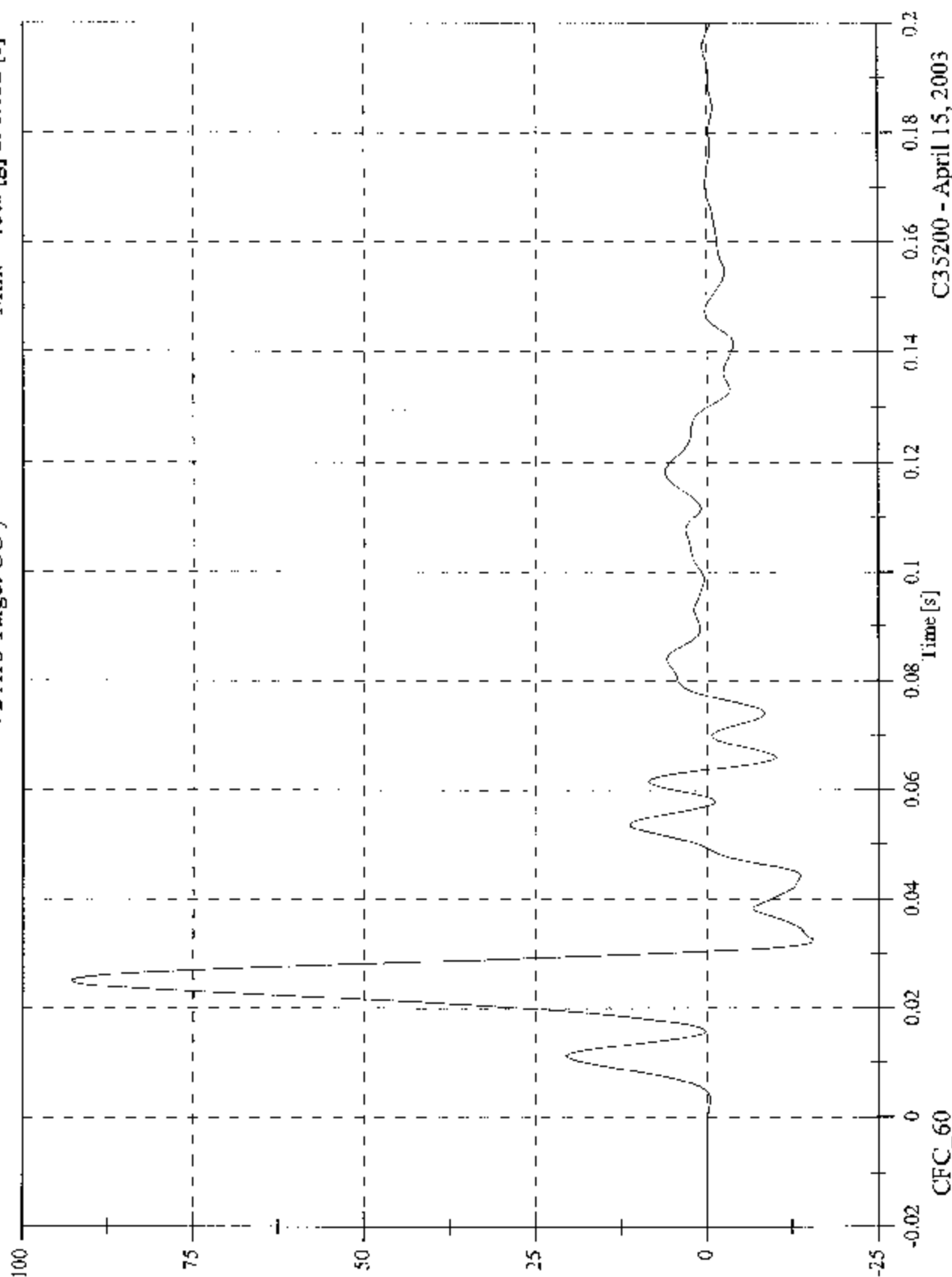
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 - 2003 Nissan Murano SUV

V2 A18 Target CG y

Max: 92.9 [g] at 0.025 [s]
Min: -15.6 [g] at 0.032 [s]



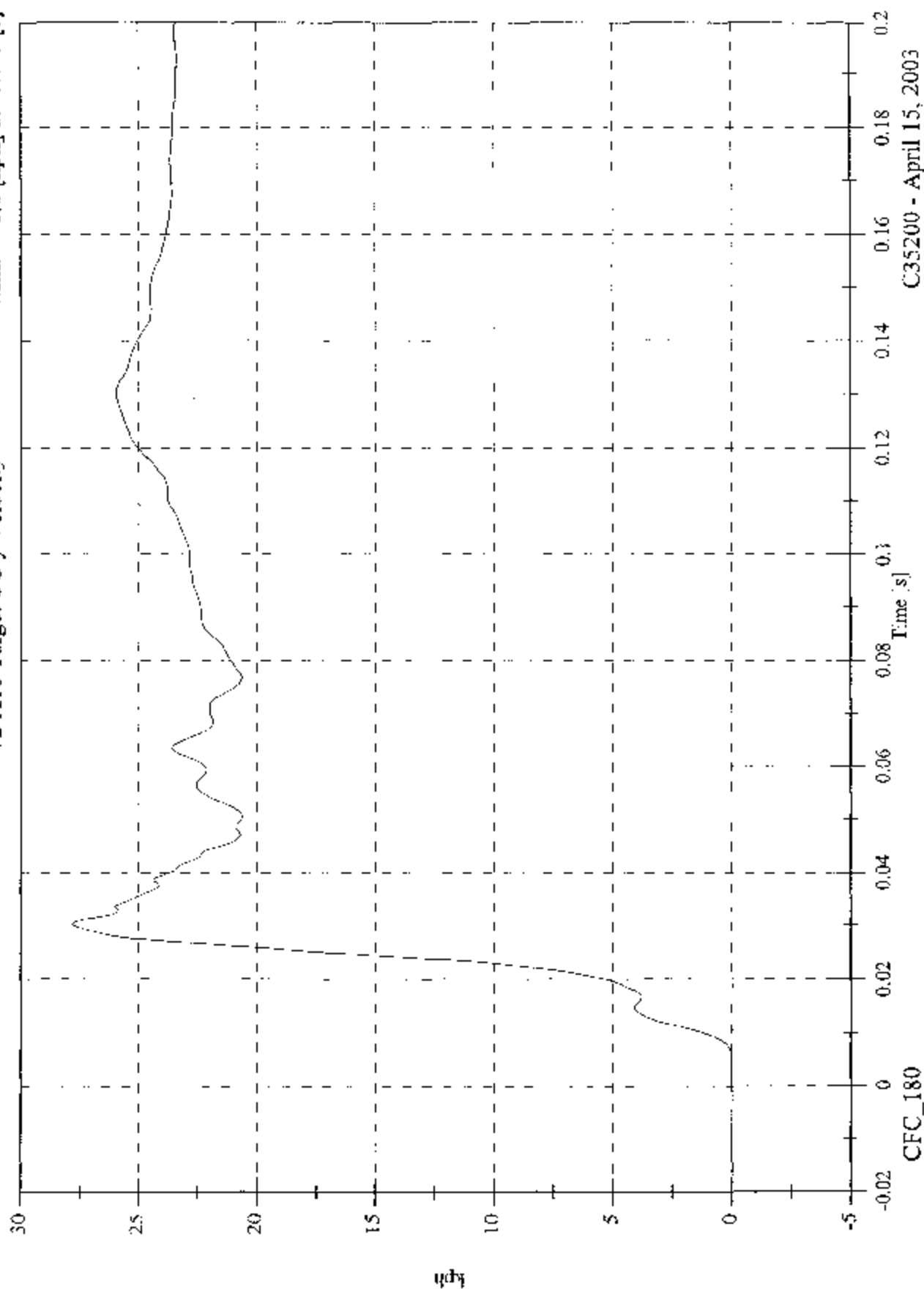
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 27.8 [kph] at 0.030 [s]

Min: -0.0 [kph] at -0.015 [s]

V2 A18 Target CG y Velocity



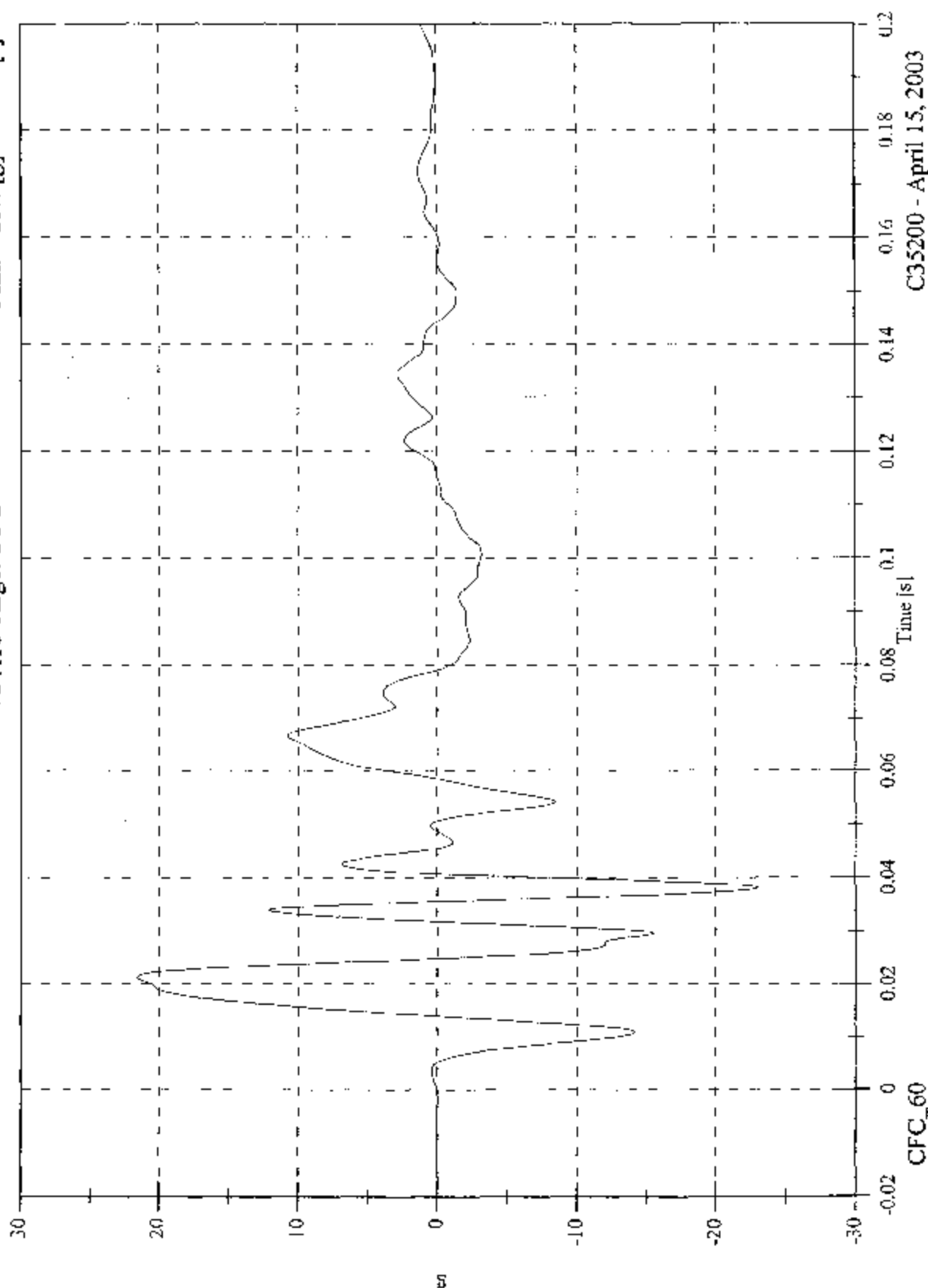
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 21.6 [g] at 0.021 [s]
Min: -23.0 [g] at 0.038 [s]

V2 A18 Target CG z



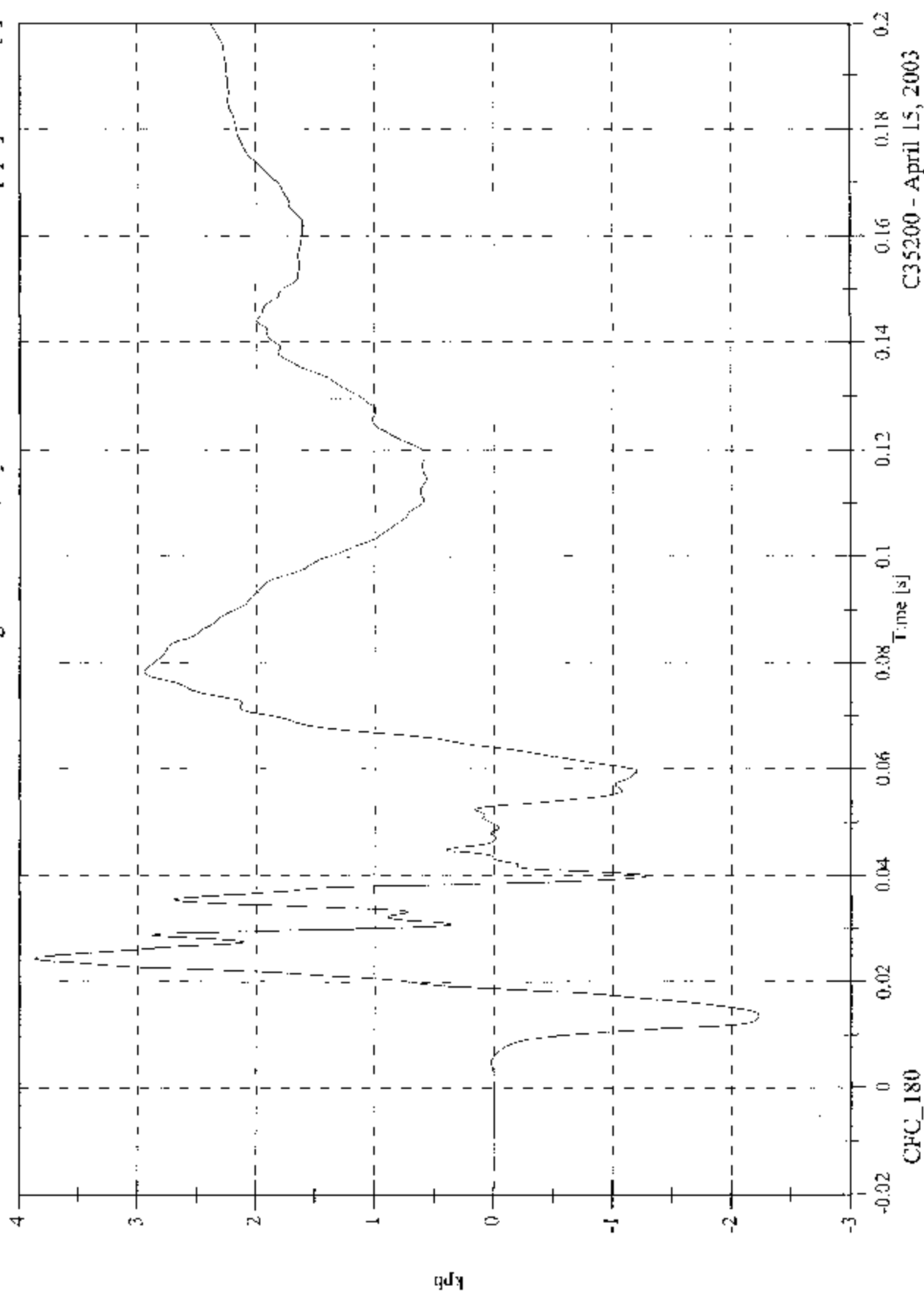
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 3.9 [kph] at 0.025 [s]

Min: -2.2 [kph] at 0.014 [s]

V2 A18 Target CG z Velocity



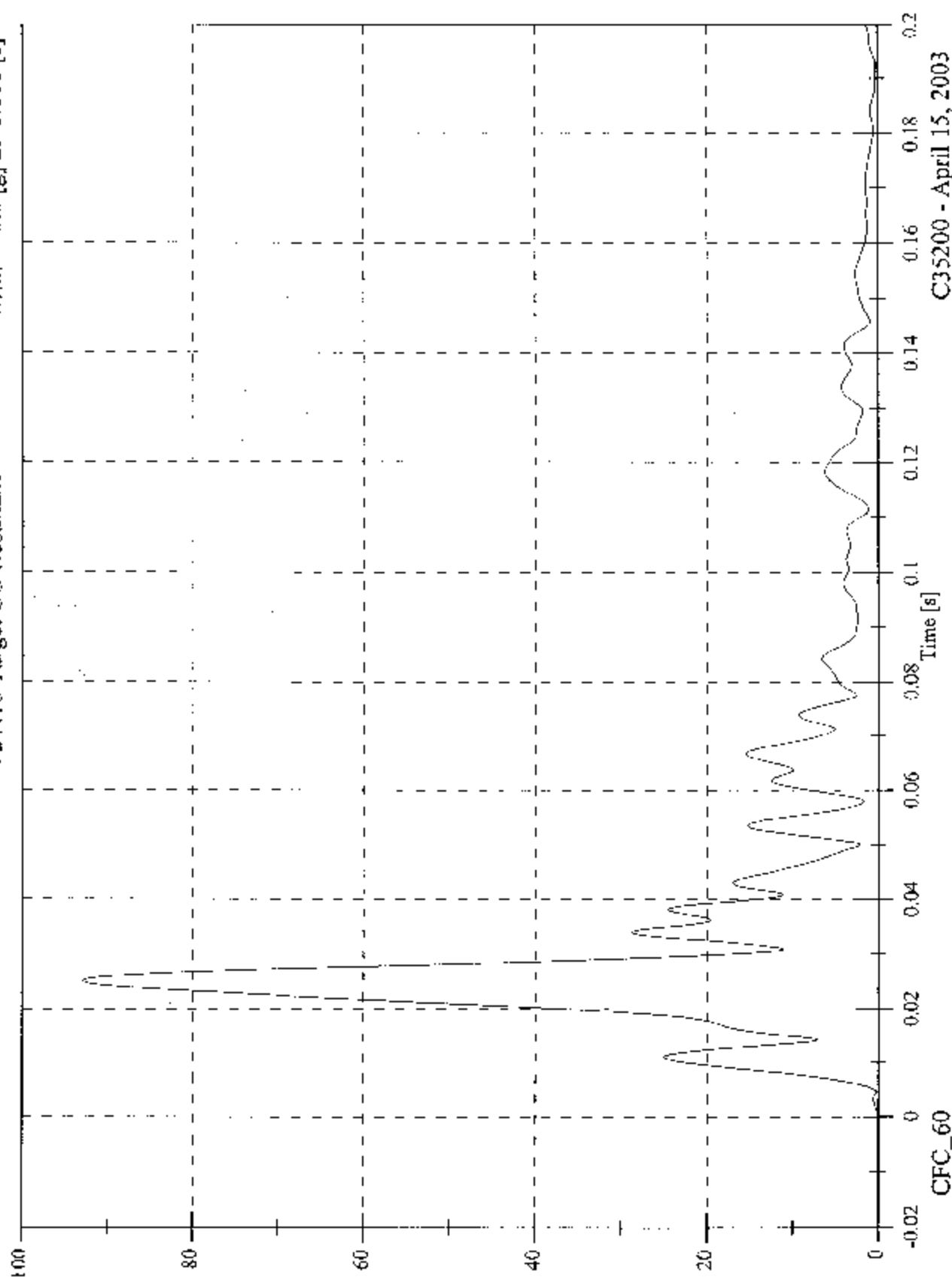
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 92.9 [g] at 0.025 [s]
Min: 0.0 [g] at -0.011 [s]

V2 A18 Target CG Resultant



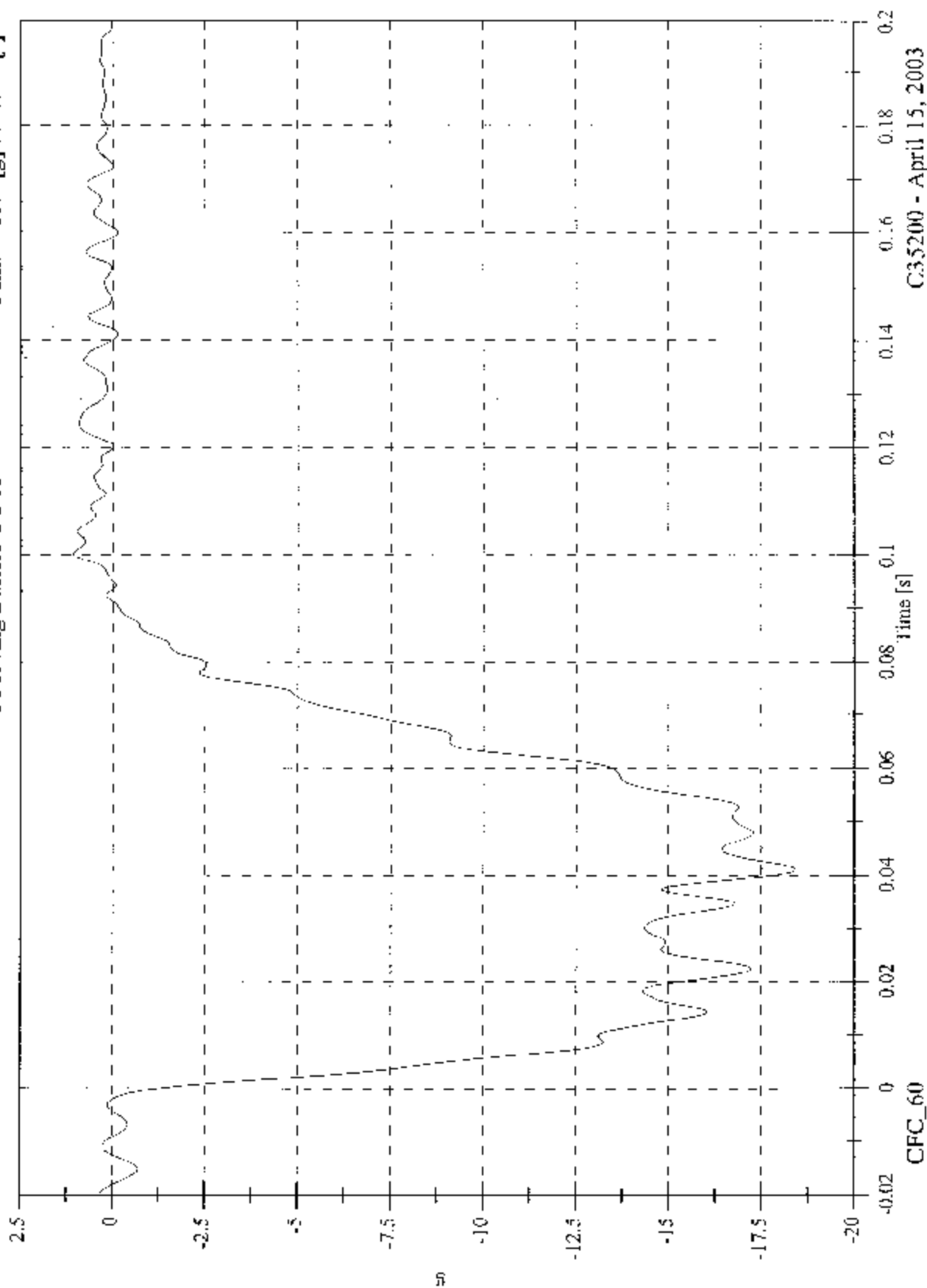
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 1.1 [g] at 0.100 [s]

Min: -18.4 [g] at 0.041 [s]

V1 Moving Barrier CG X

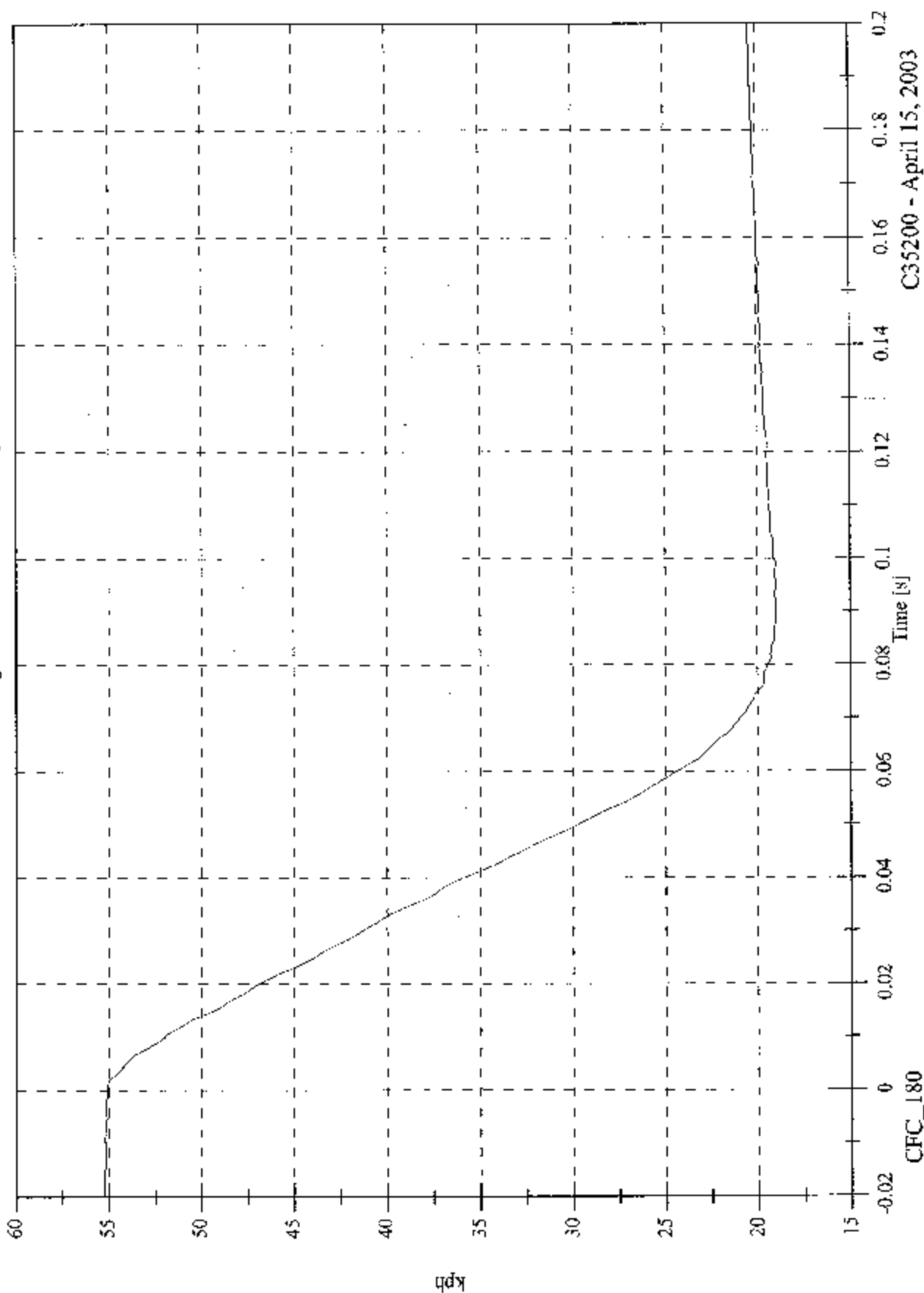


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 55.3 [kph] at -0.017 [s]
 Min: 19.0 [kph] at 0.092 [s]

V1 Moving Barrier CG X Velocity

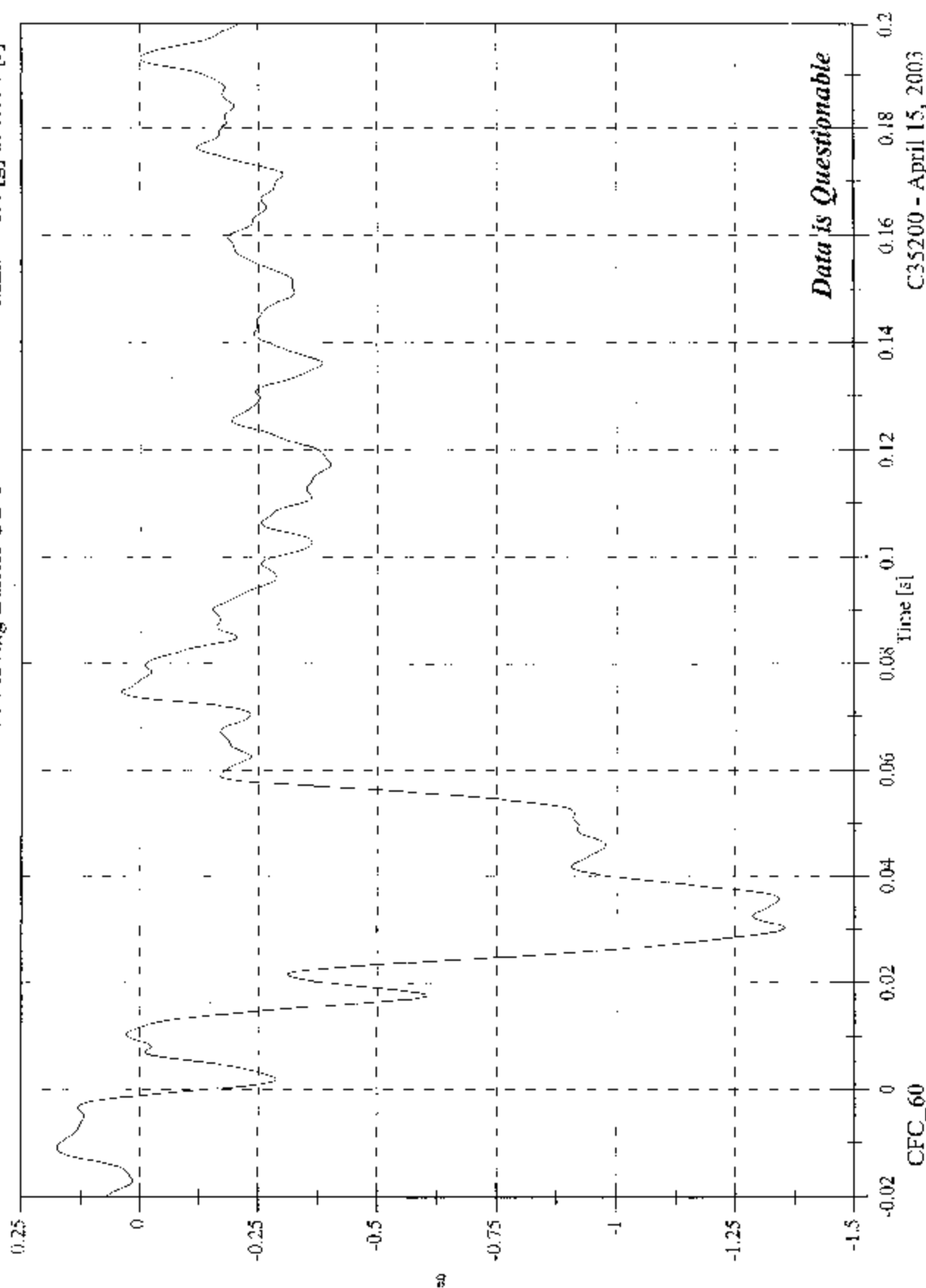


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier CG Y

Max: 0.2 [g] at -0.011 [s]
Min: -1.4 [g] at 0.030 [s]

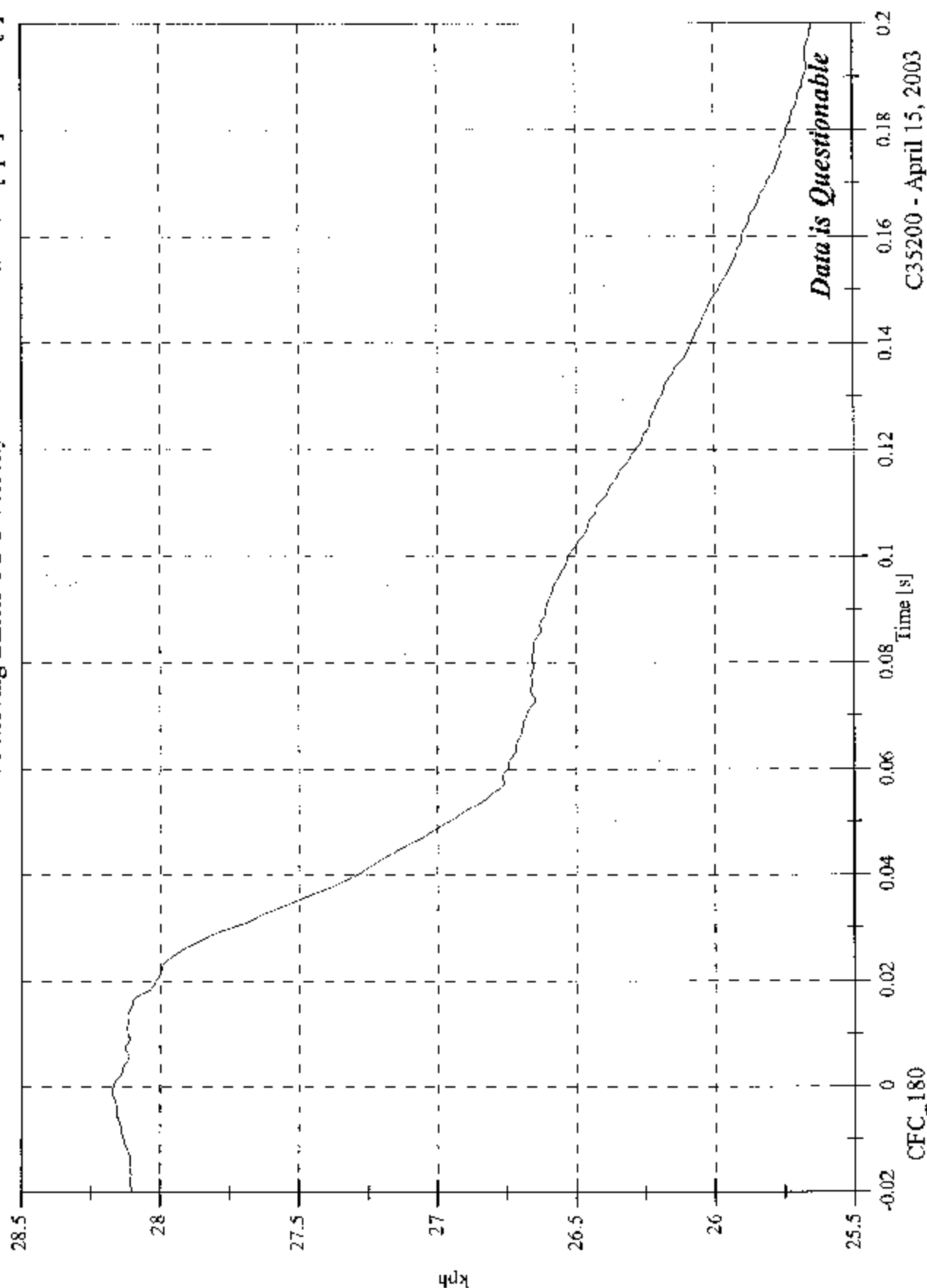


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 28.2 [kph] at -0.001 [s]

Min: 25.6 [kph] at 0.200 [s]

V1 Moving Barrier CG Y Velocity



Data is Questionable

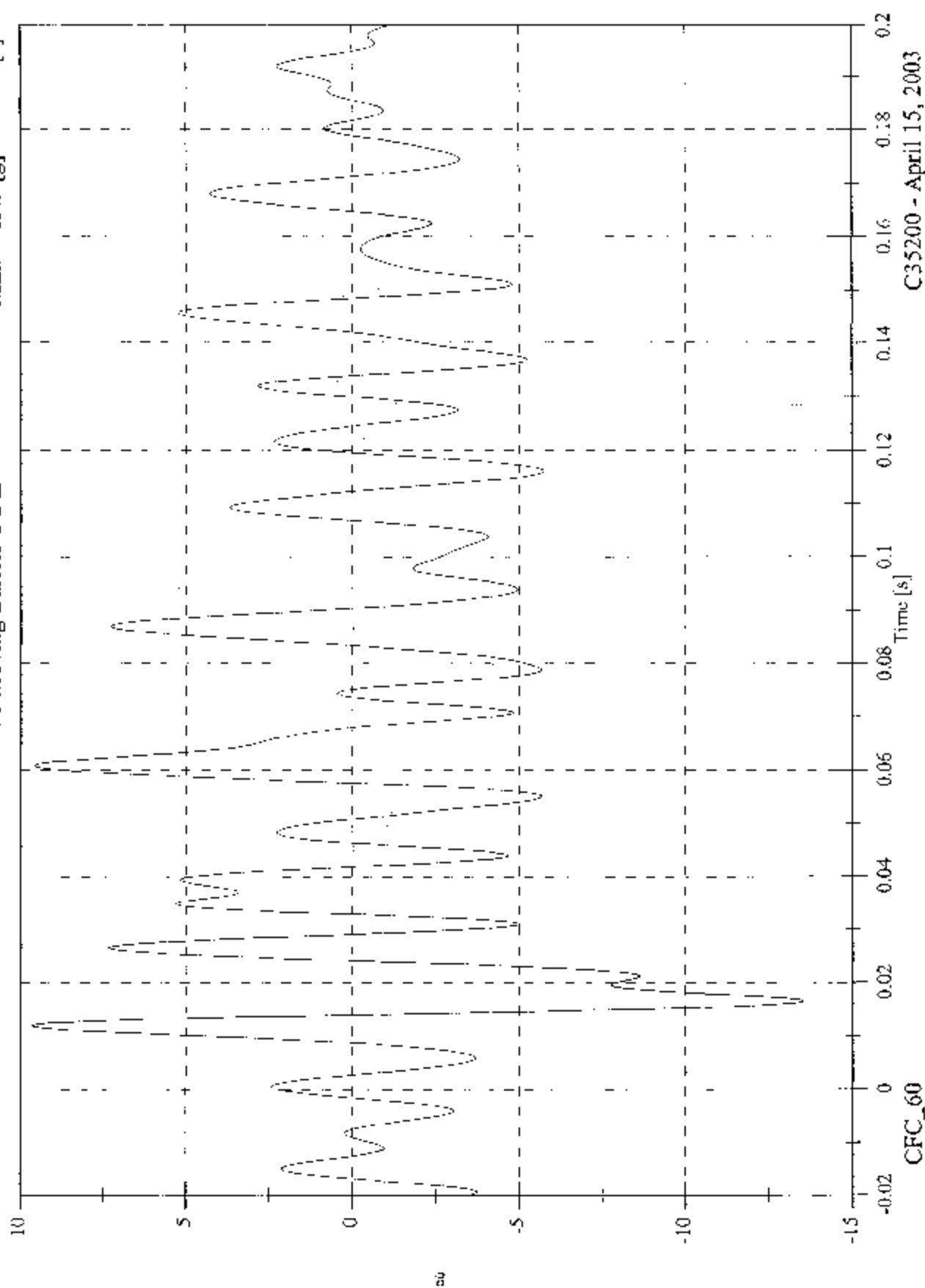
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 9.7 [g] at 0.012 [s]

V1 Moving Barrier CG Z

Min: -13.5 [g] at 0.016 [s]

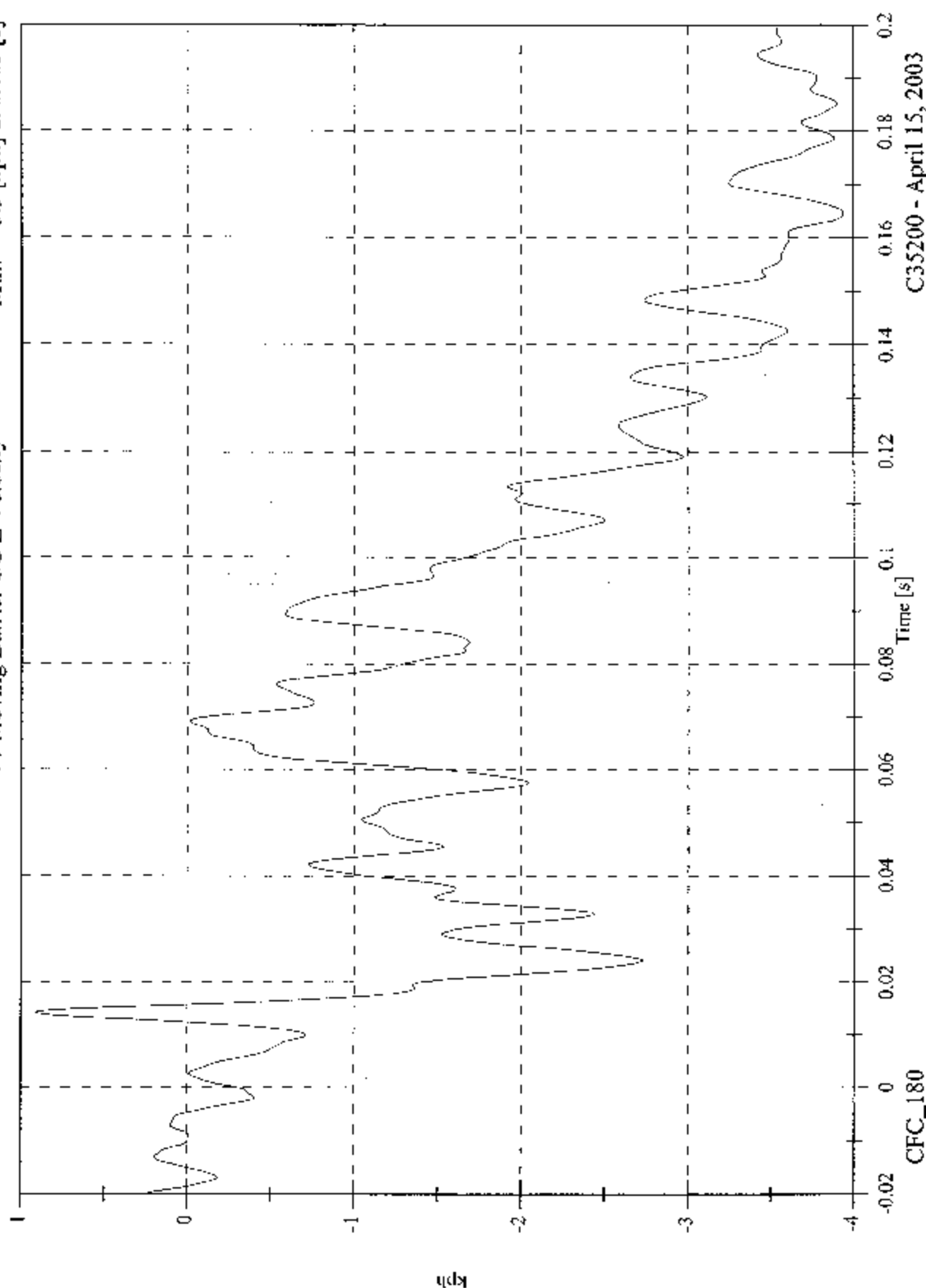


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 0.9 [kph] at 0.014 [s]
Min: -3.9 [kph] at 0.165 [s]

V1 Moving Barrier CG Z Velocity



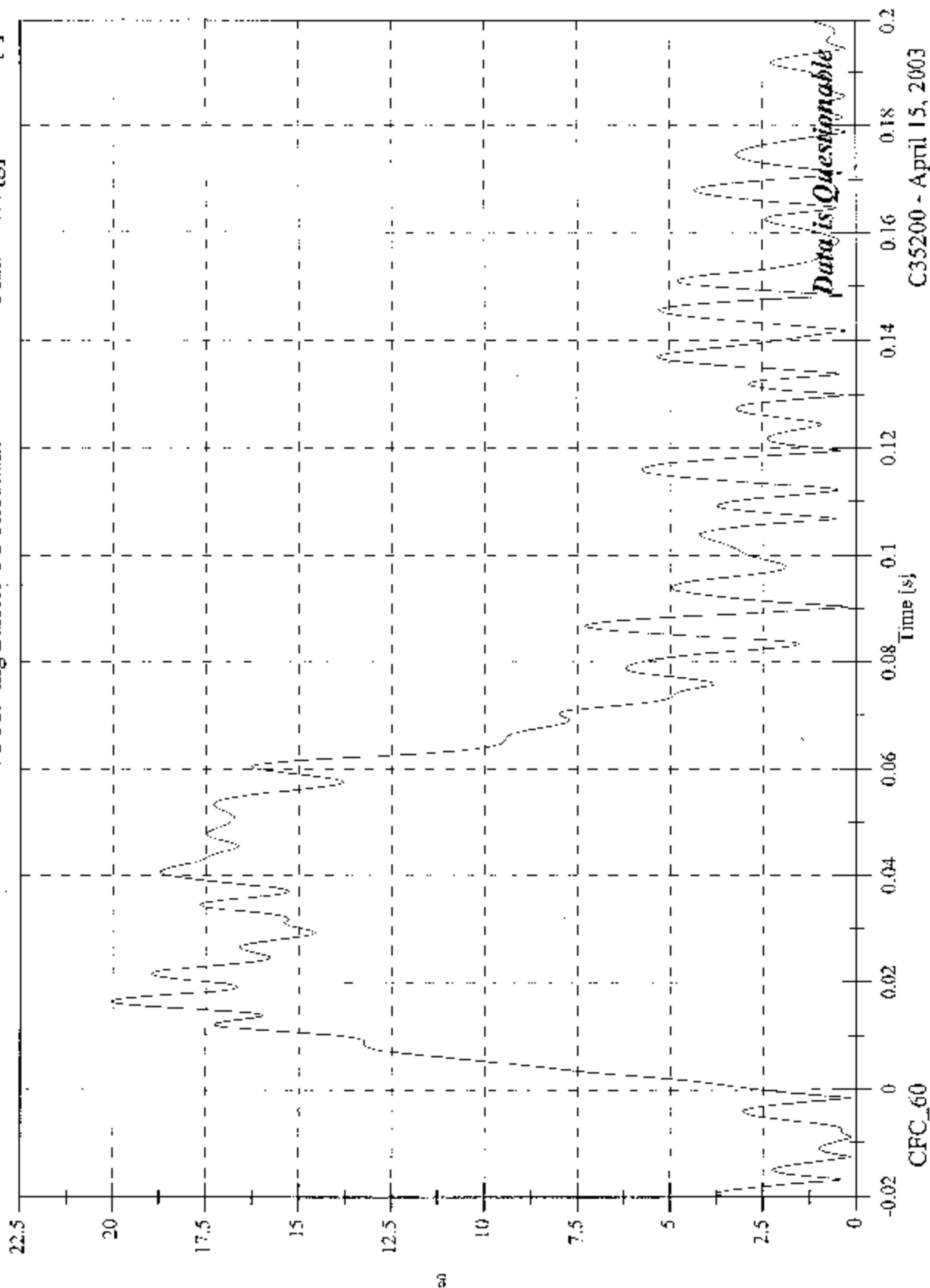
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 20.0 [g] at 0.016 [s]
Min: 0.1 [g] at -0.013 [s]

V1 Moving Barrier CG Resultant

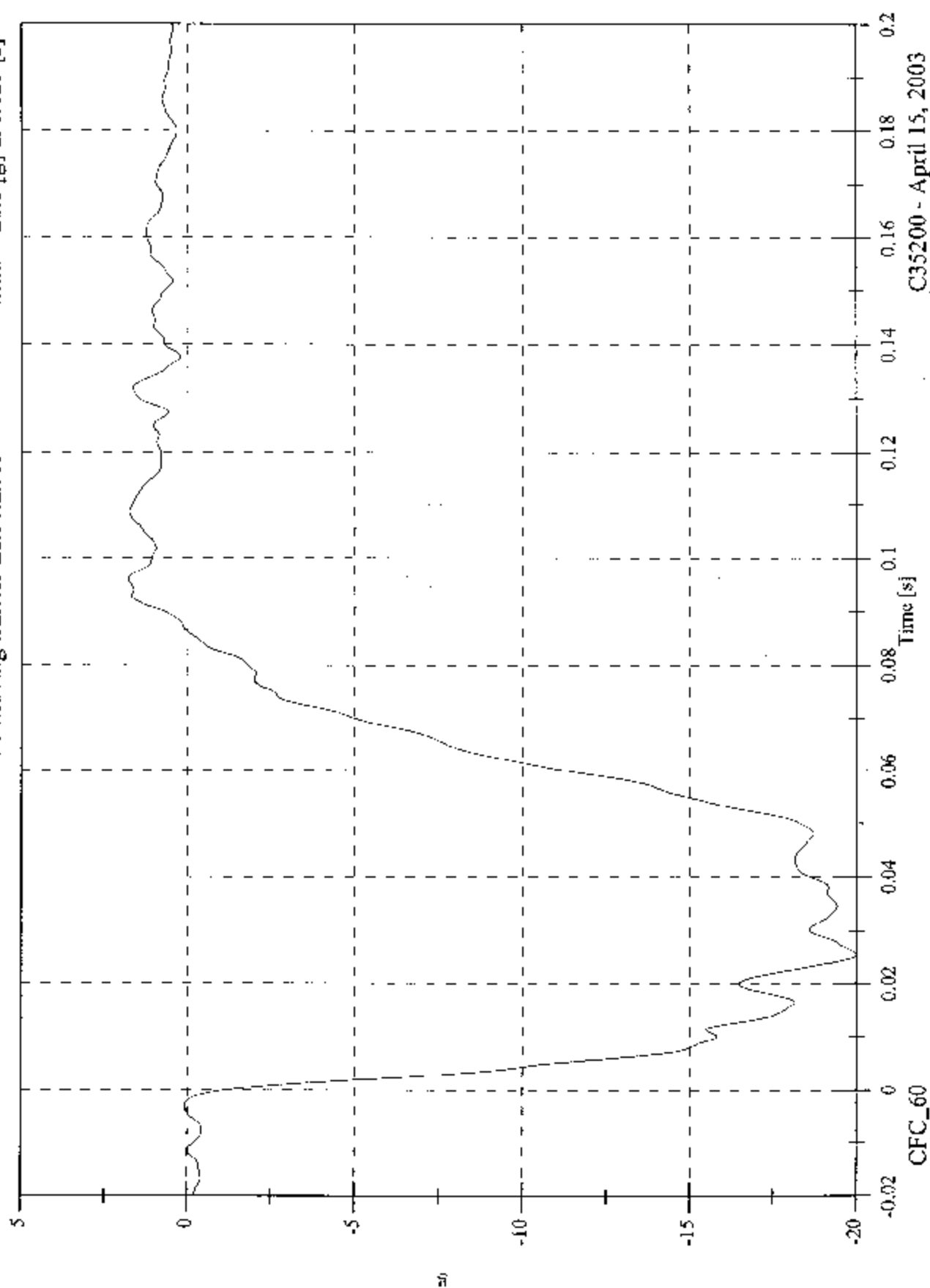


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 1.8 [g] at 0.096 [s]
Min: -20.0 [g] at 0.025 [s]

V1 Moving Barrier Left Rail X



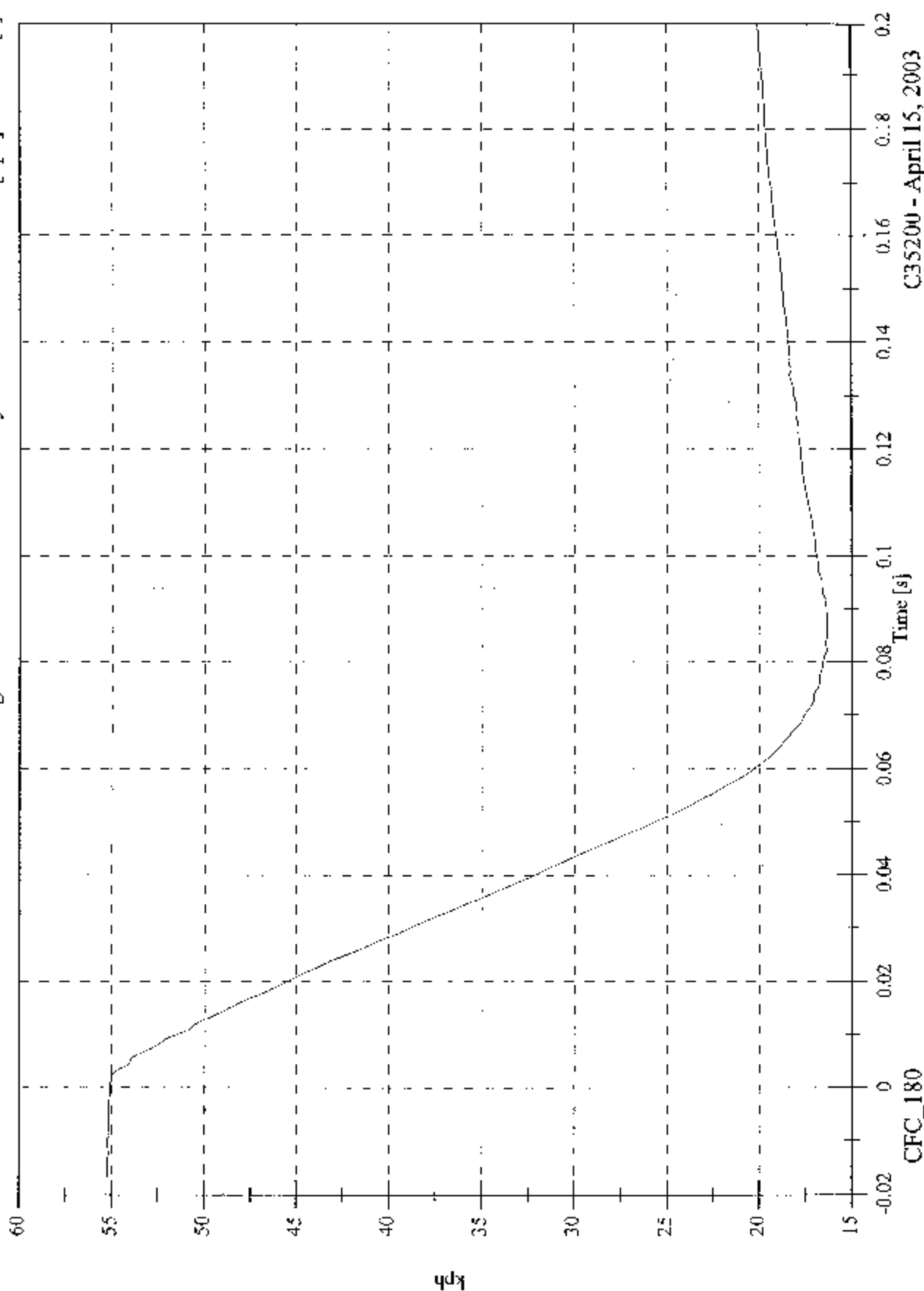
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 55.3 [kph] at -0.020 [s]

Min: 16.3 [kph] at 0.086 [s]

V1 Moving Barrier Left Rail X Velocity



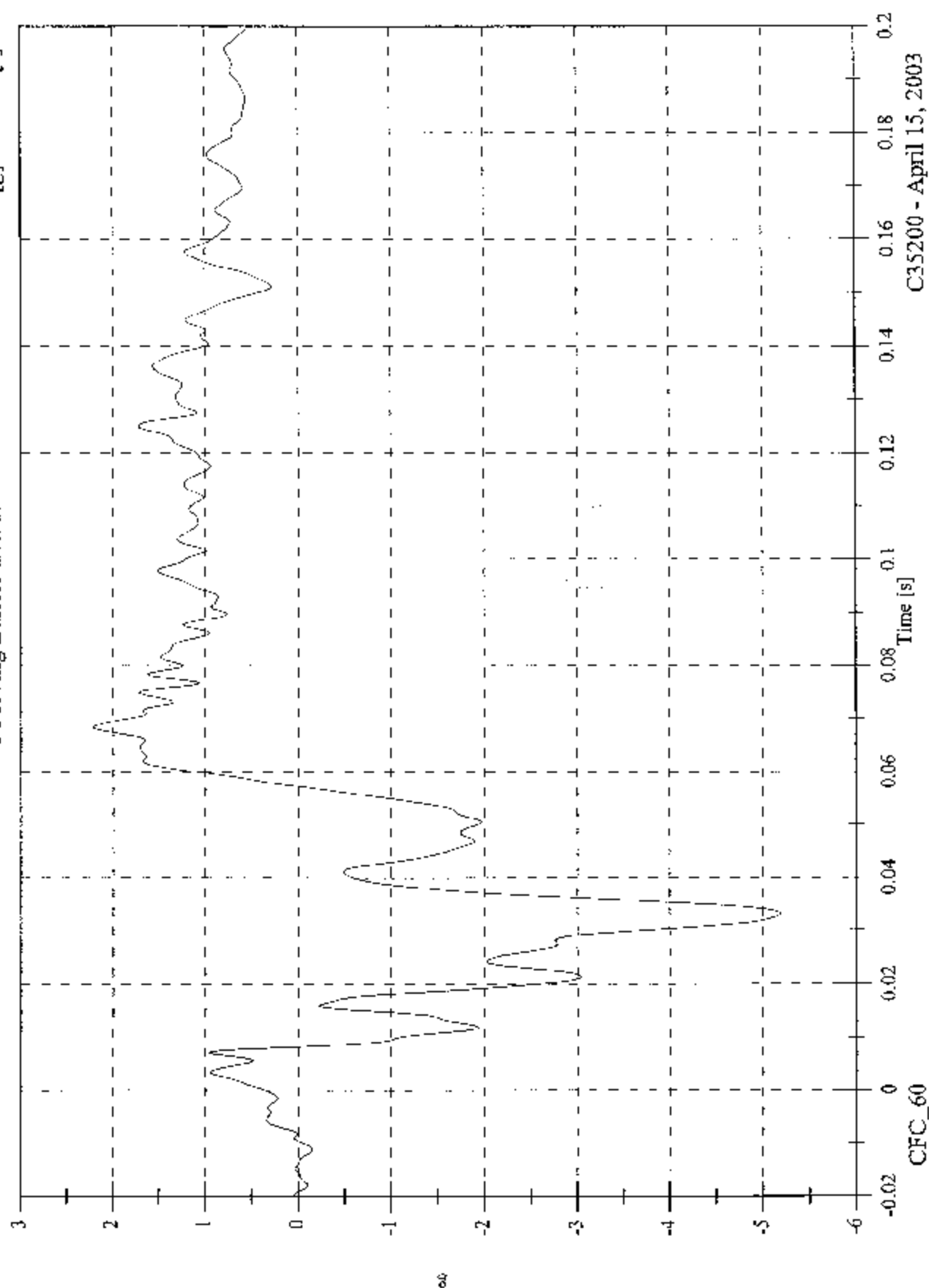
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V1 Moving Barrier Left Rail Y

Max: 2.2 [g] at 0.068 [s]
Min: -5.2 [g] at 0.033 [s]



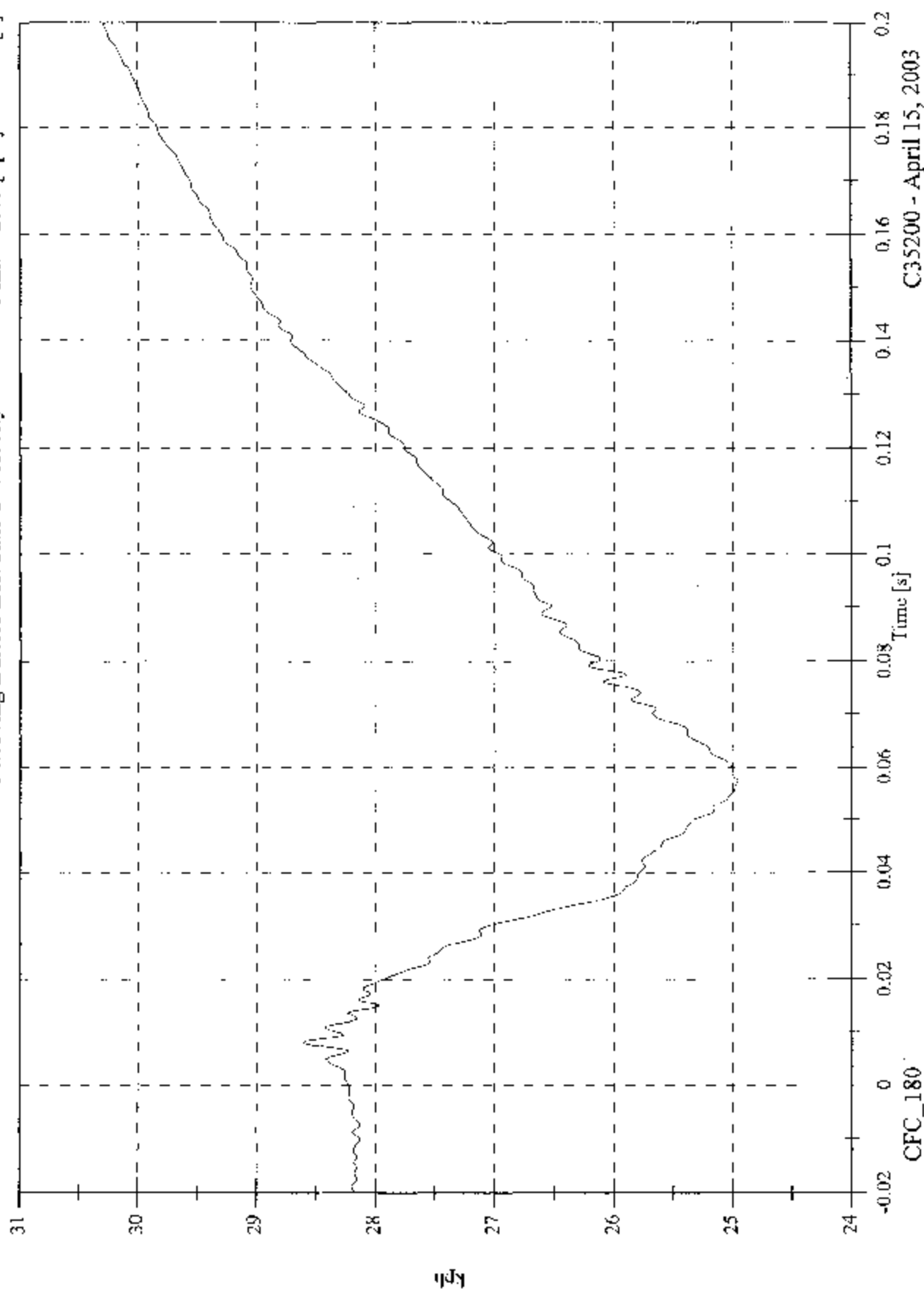
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 30.3 [kph] at 0.200 [s]

V1 Moving Barrier Left Rail Y Velocity

Min: 25.0 [kph] at 0.057 [s]

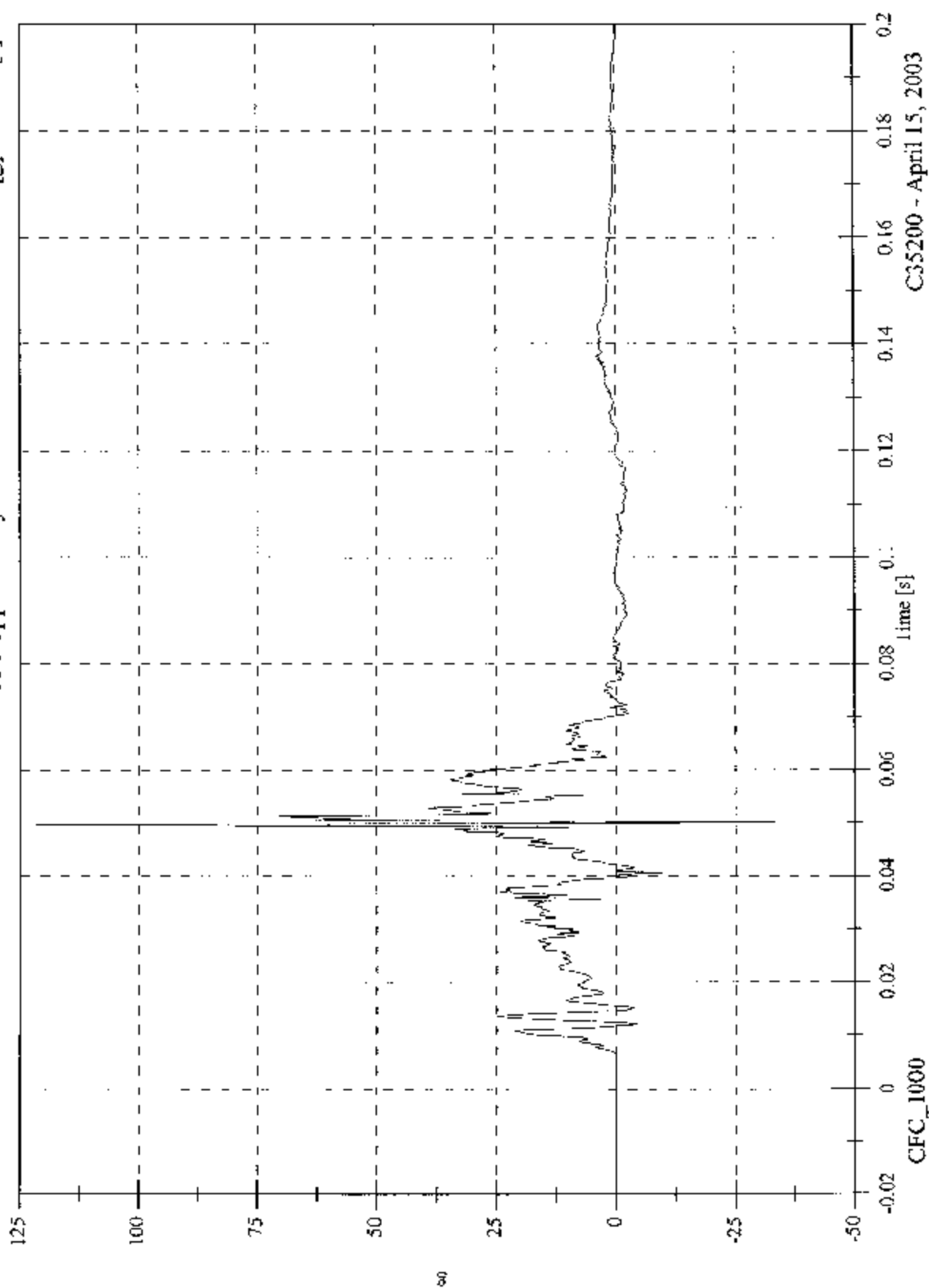


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Rib Ry

Max: 121.6 [g] at 0.050 [s]
Min: -33.2 [g] at 0.050 [s]

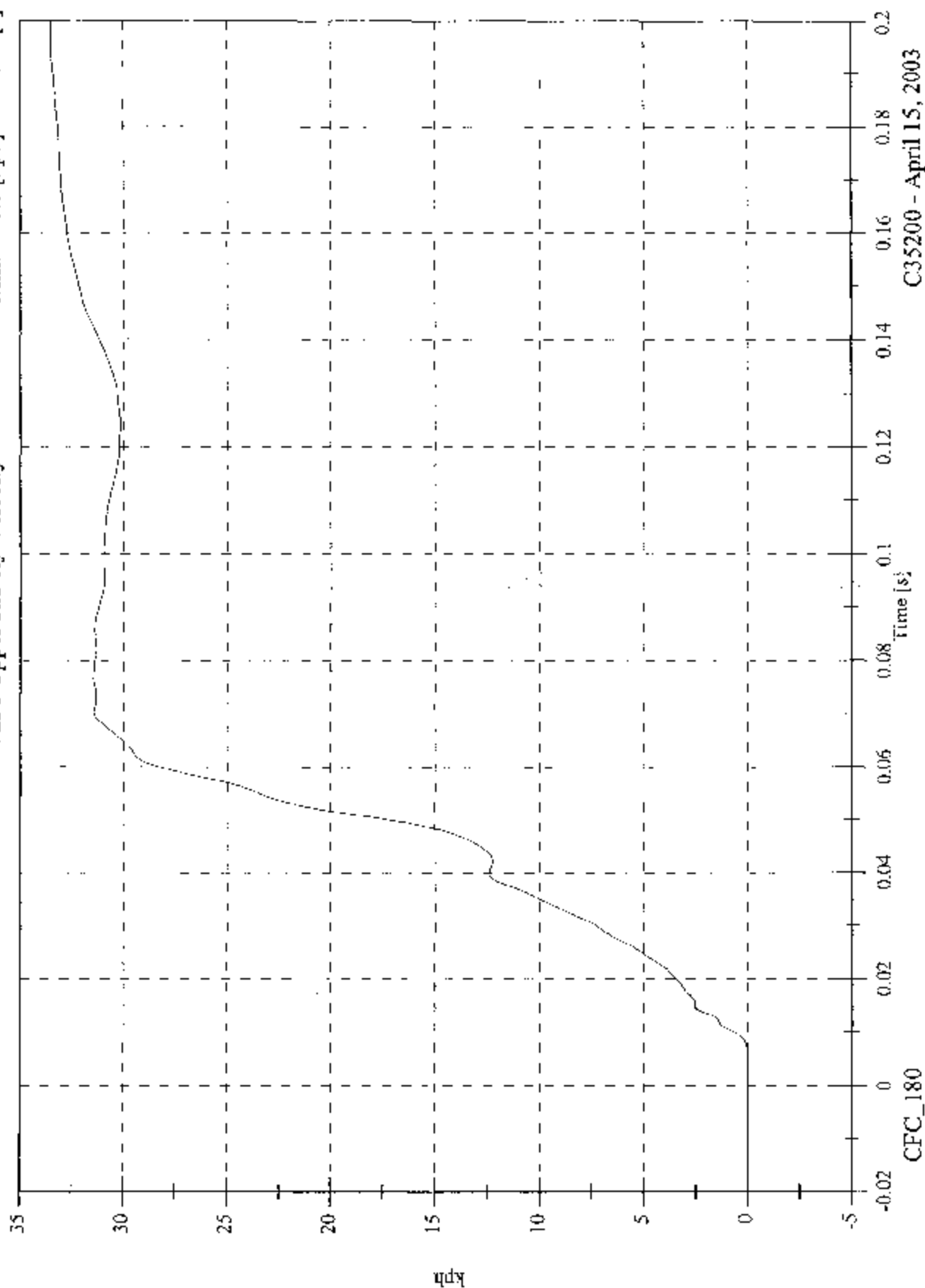


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Upper Rib Ry Velocity

Max: 33.5 [kph] at 0.197 [s]
Min: -0.0 [kph] at -0.020 [s]

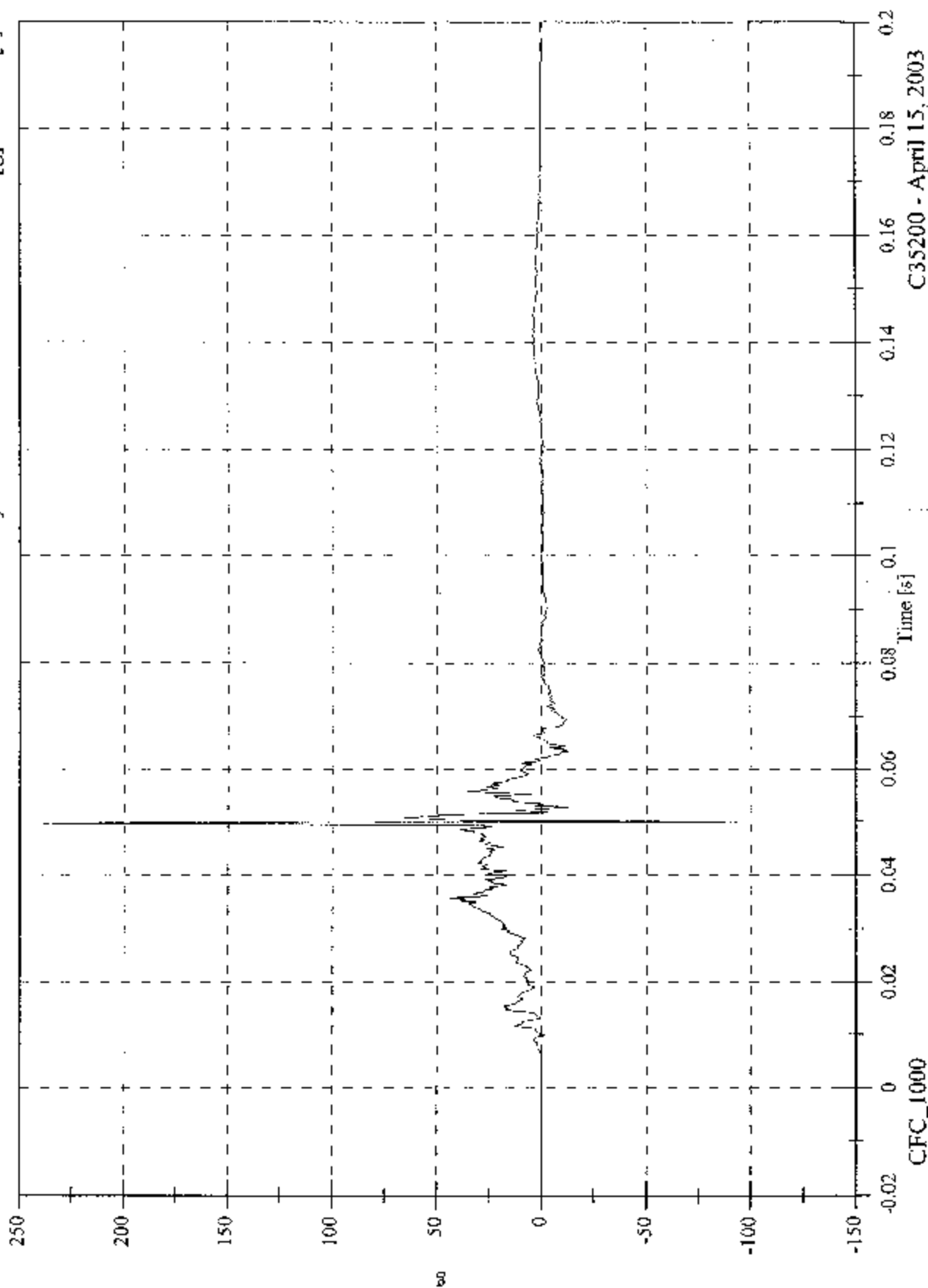


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2PI Lower Rib Ry

Max: 238.9 [g] at 0.050 [s]
Min: -103.1 [g] at 0.050 [s]

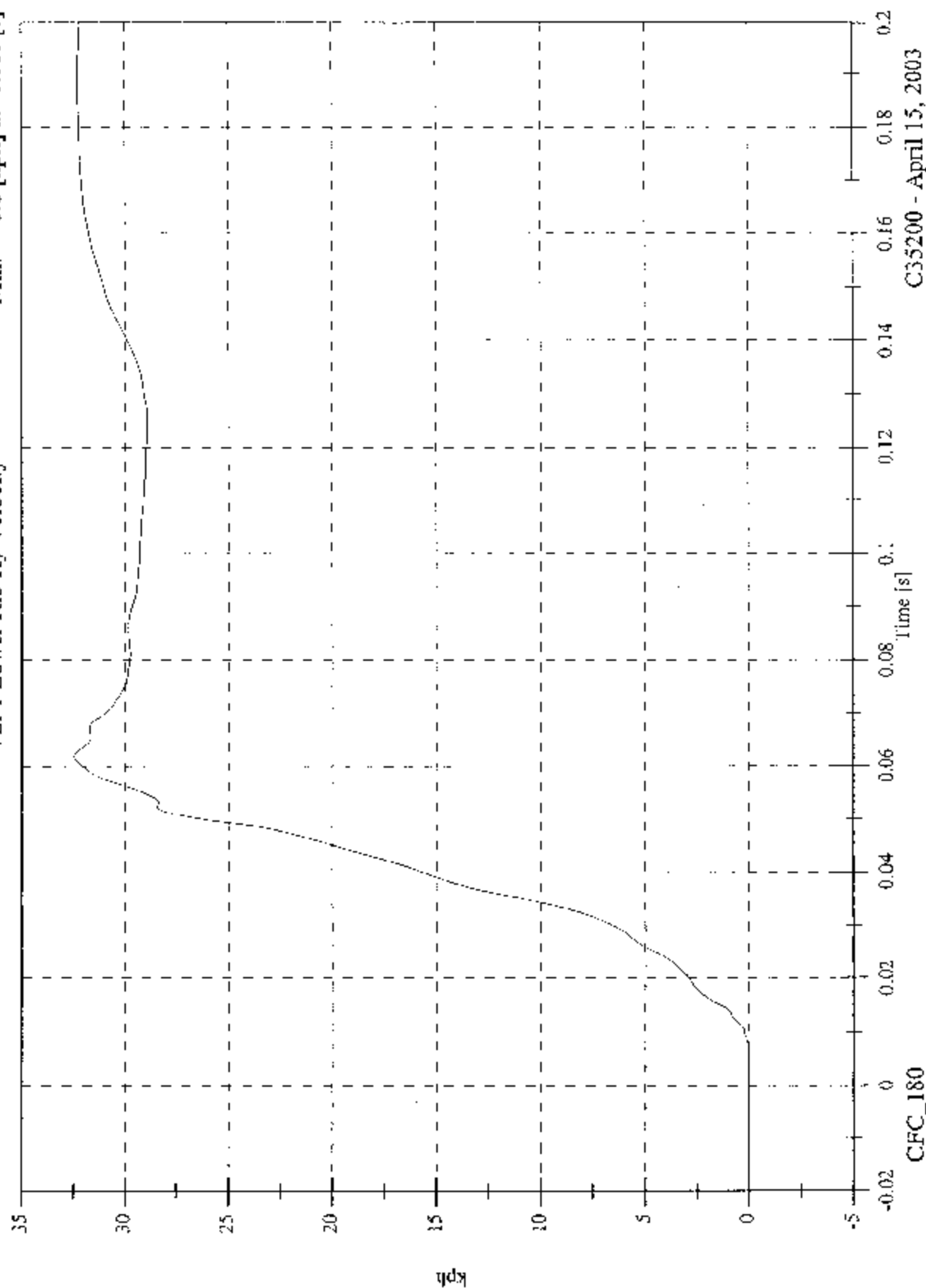


C35200 - April 15, 2003

2003 FNVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Rib Ry Velocity

Max: 32.5 [kph] at 0.062 [s]
Min: -0.0 [kph] at -0.018 [s]



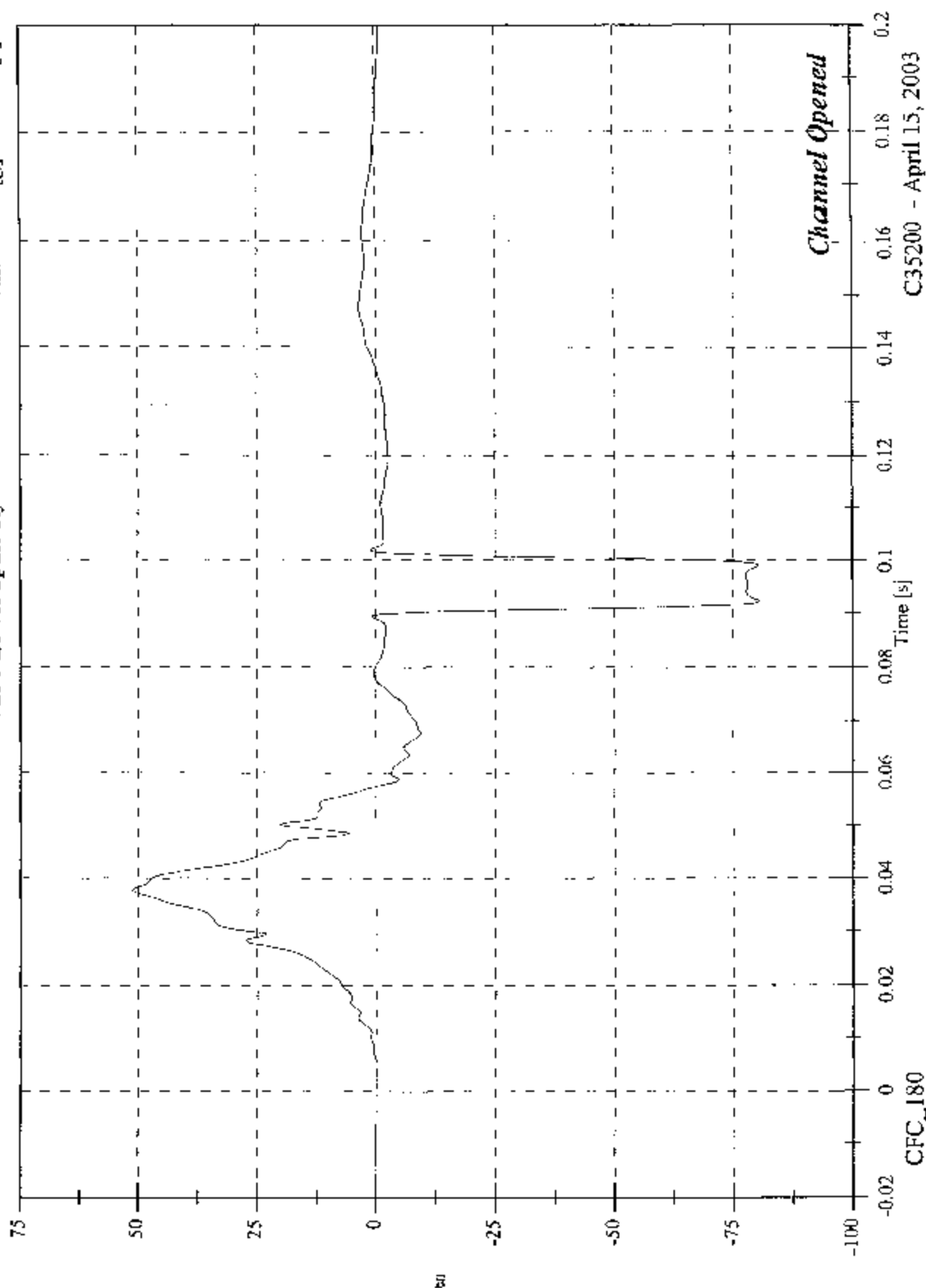
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 51.2 [g] at 0.038 [s]
Min: -80.5 [g] at 0.092 [s]

V2P1 Lower Spine Ry

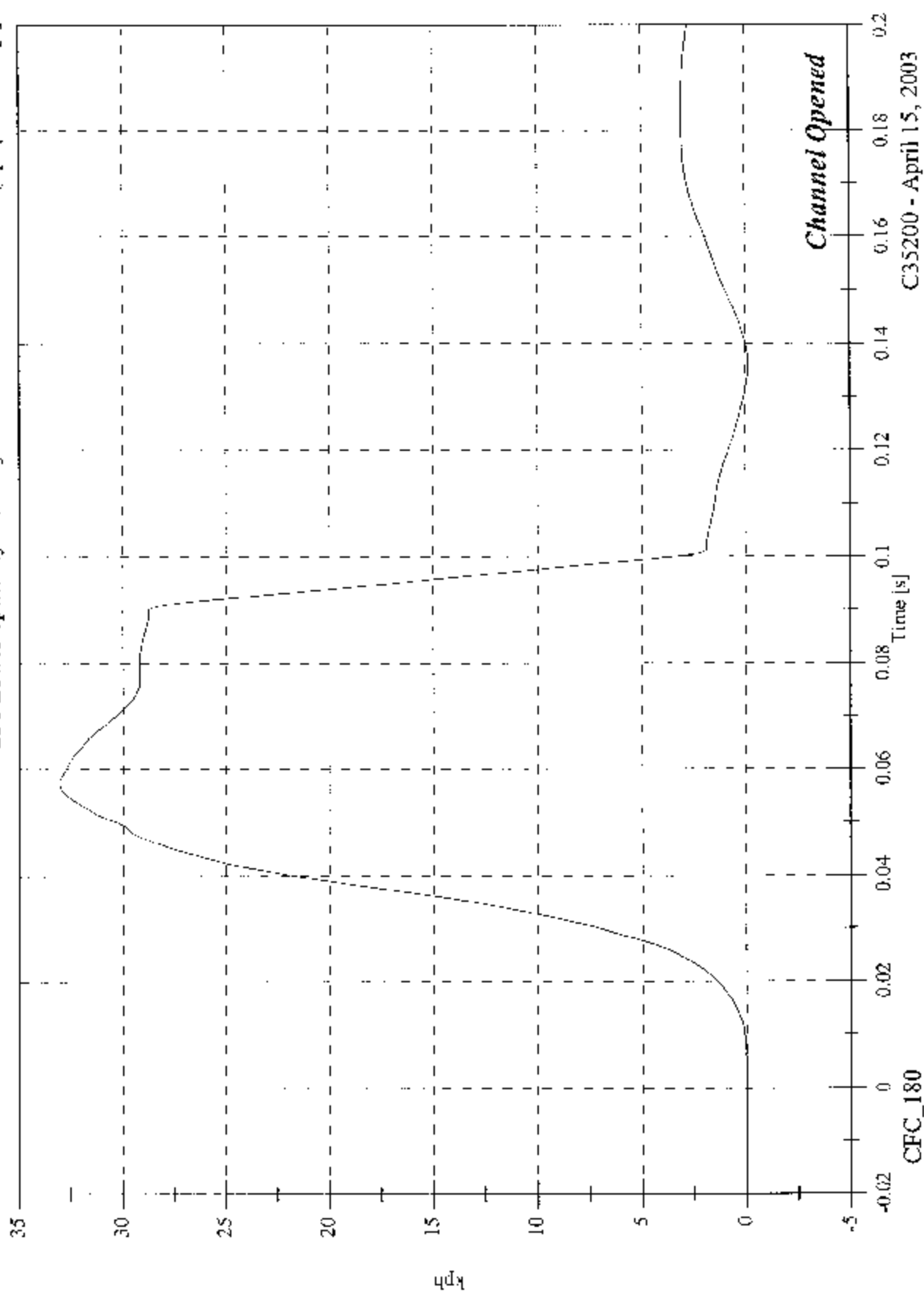


2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 33.1 [kph] at 0.057 [s]

Min: -0.1 [kph] at 0.136 [s]

V2P1 Lower Spine Ry Velocity



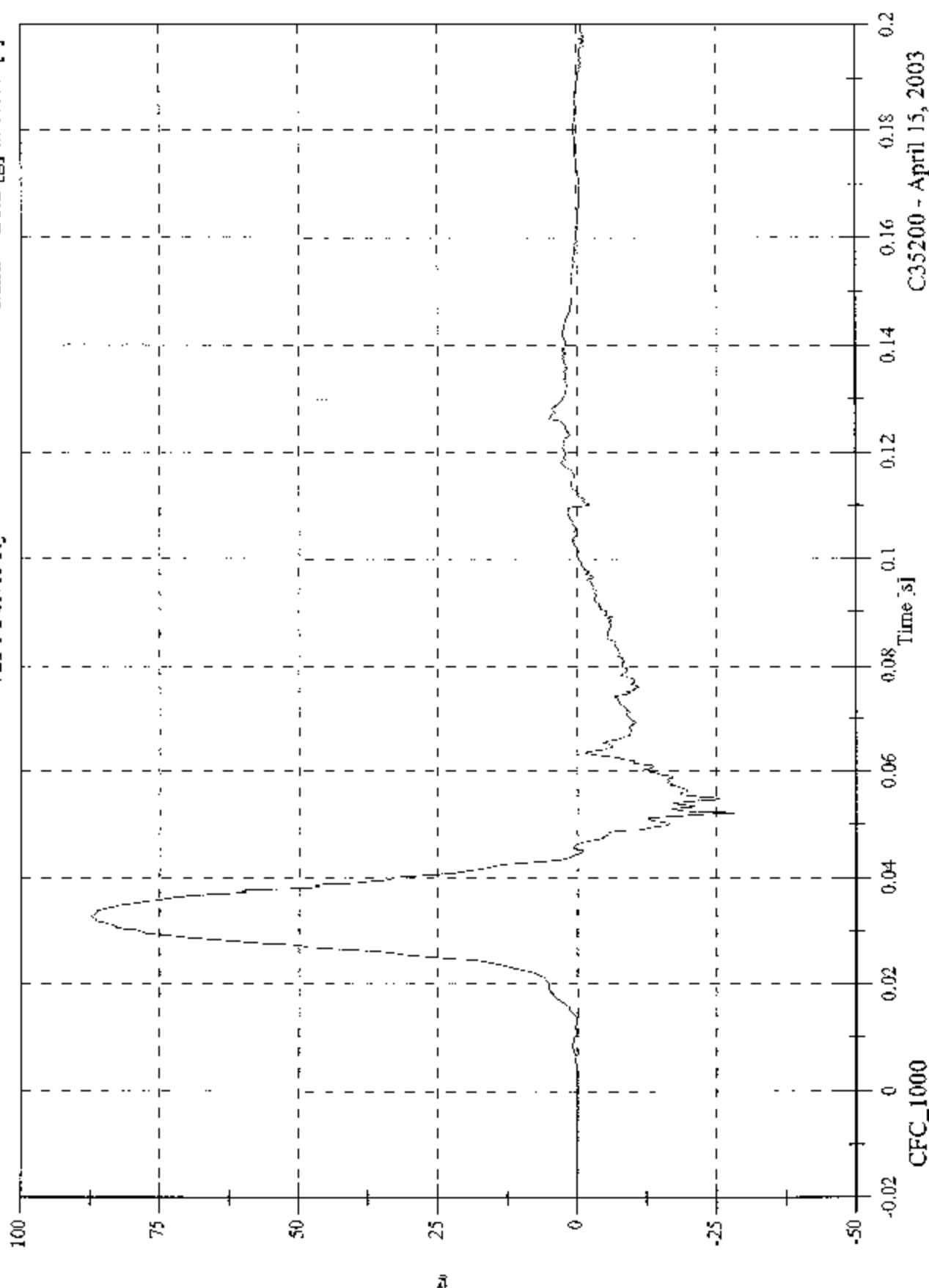
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic Ry

Max: 87.3 [g] at 0.033 [s]
Min: -28.2 [g] at 0.052 [s]



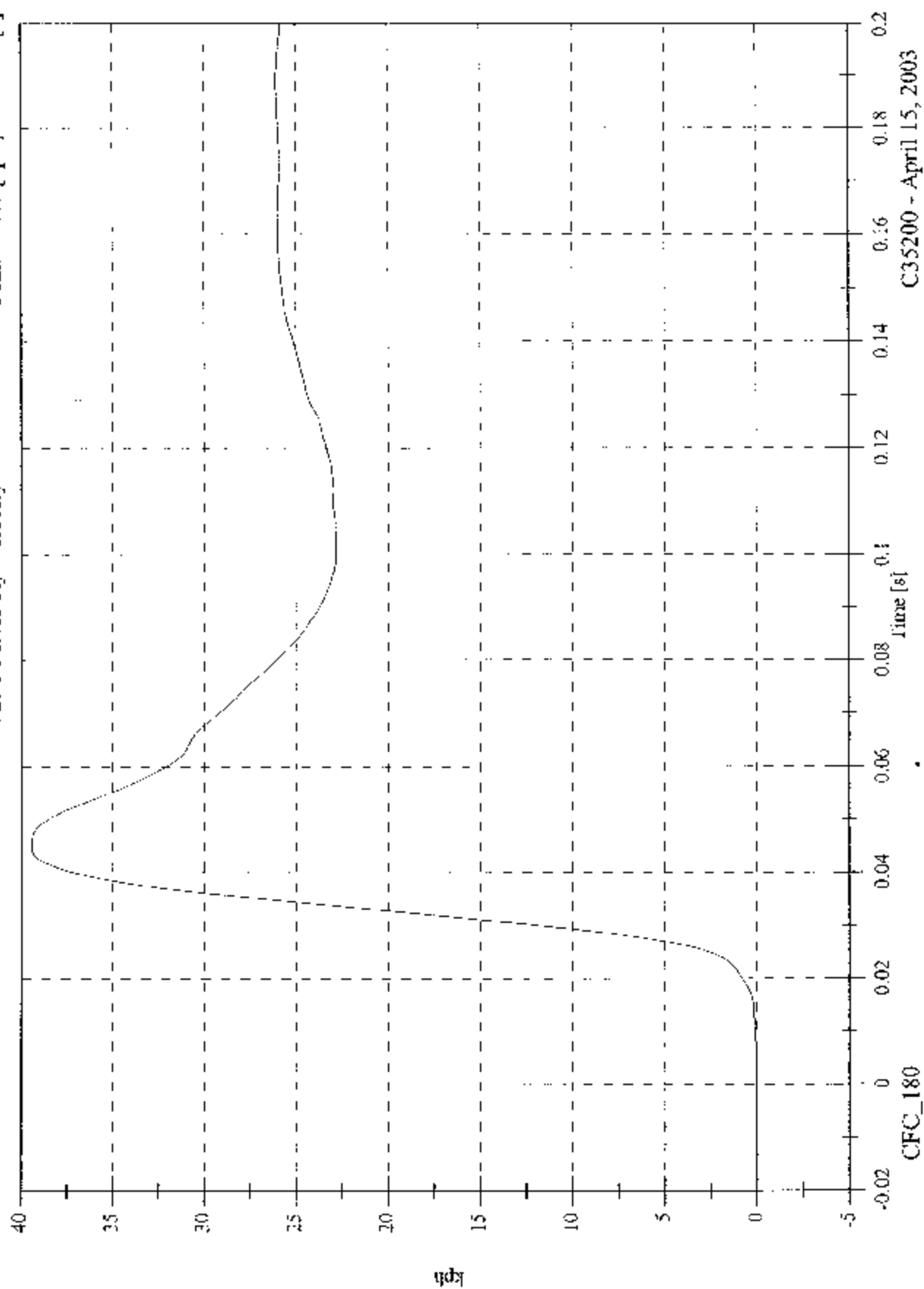
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 39.4 [kph] at 0.044 [s]

Min: -0.0 [kph] at -0.014 [s]

V2P1 Pelvic Ry Velocity

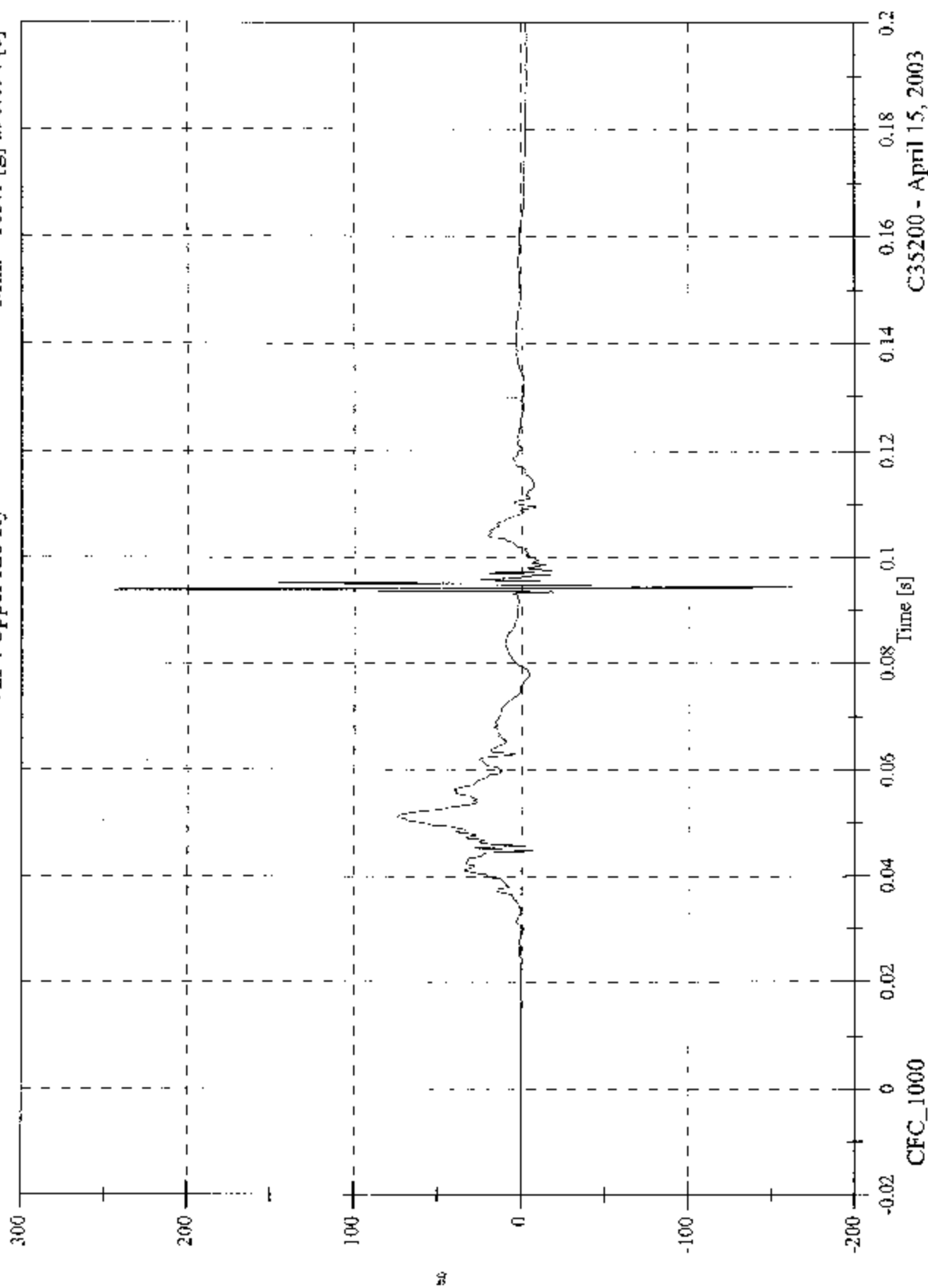


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib Ry

Max: 246.4 [g] at 0.094 [s]
Min: -165.1 [g] at 0.094 [s]



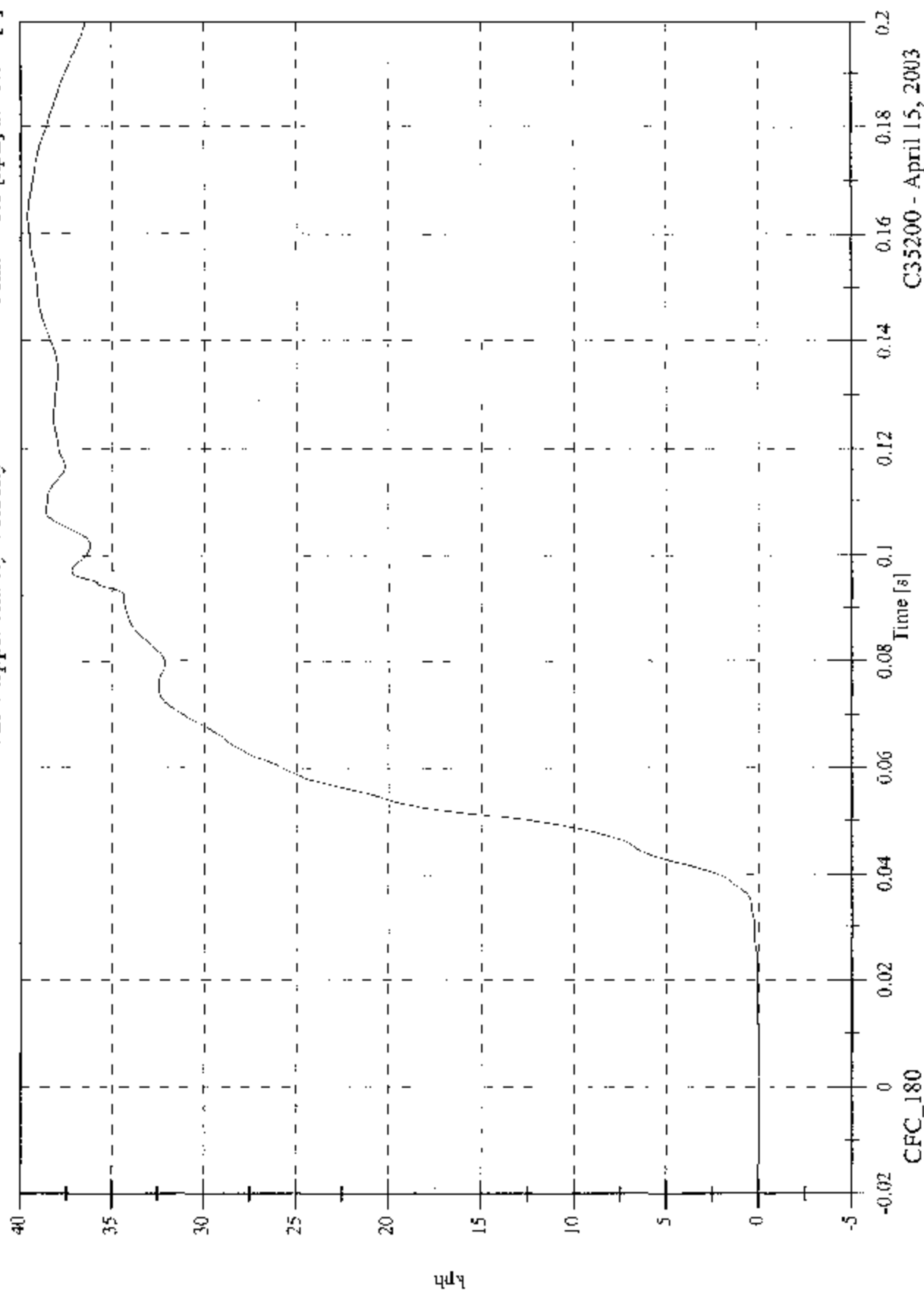
C35200 - April 15, 2003

2003 FMYSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rth Ry Velocity

Max: 39.6 [kph] at 0.163 [s]

Min: -0.0 [kph] at -0.012 [s]



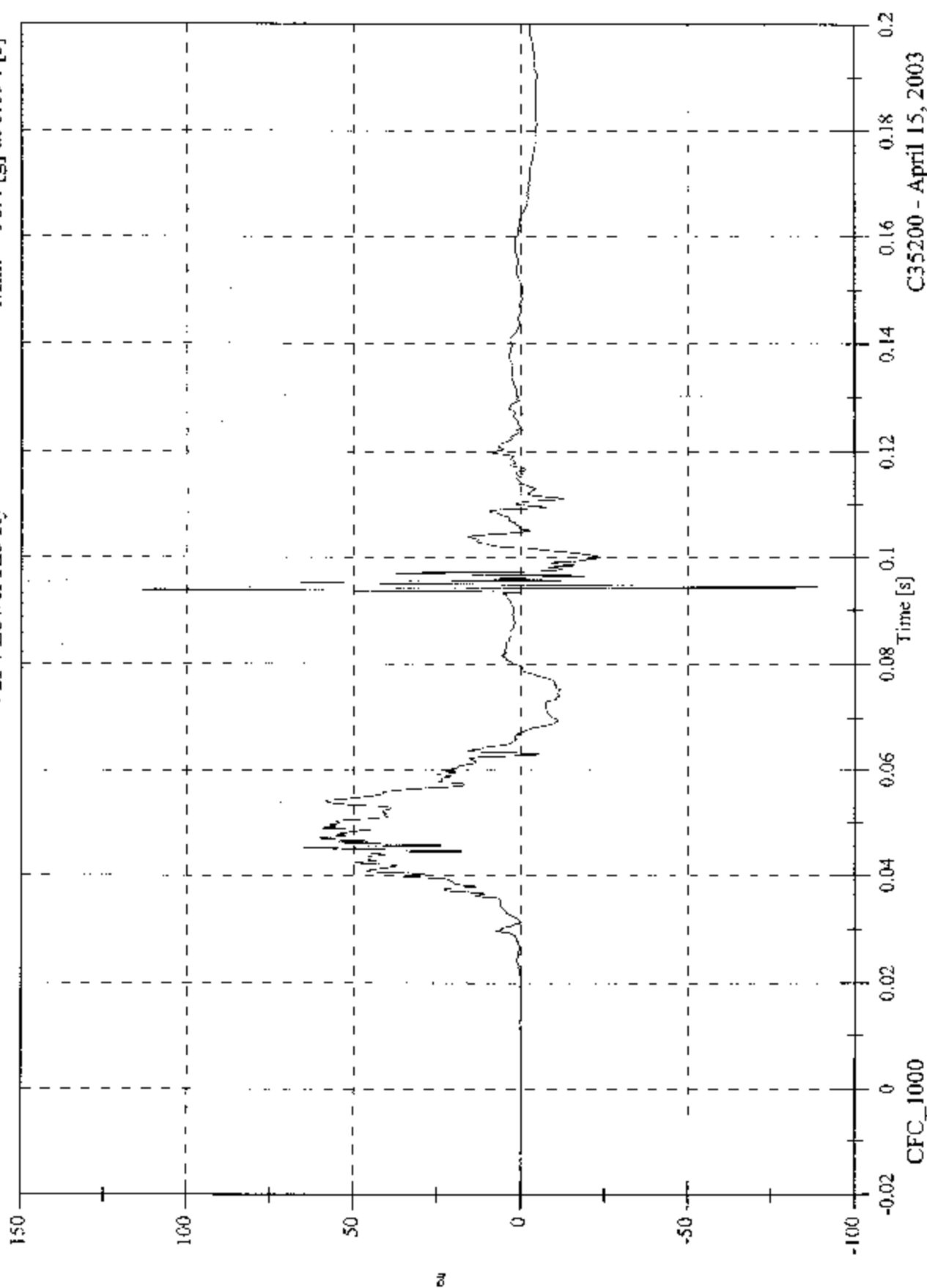
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Rib Ry

Max: 113.9 [g] at 0.094 [s]
Min: -90.4 [g] at 0.094 [s]



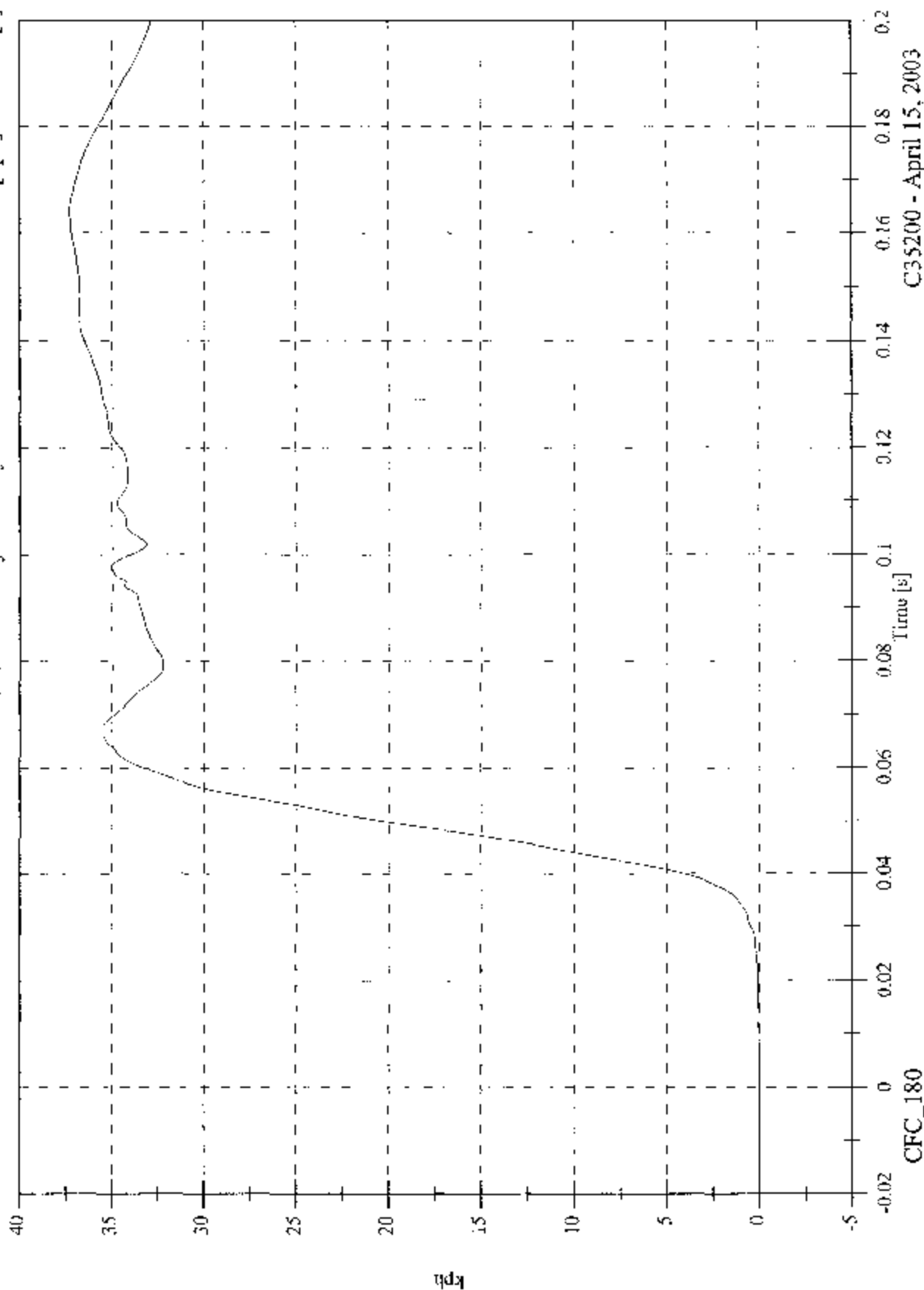
C35200 - April 15, 2003

2003 F MVSS 214D Test 5 2003 Nissan Murano SUV

Max: 37.3 [kph] at 0.164 [s]

Min: -0.0 [kph] at -0.017 [s]

V2P4_Lower Rib Ry Velocity



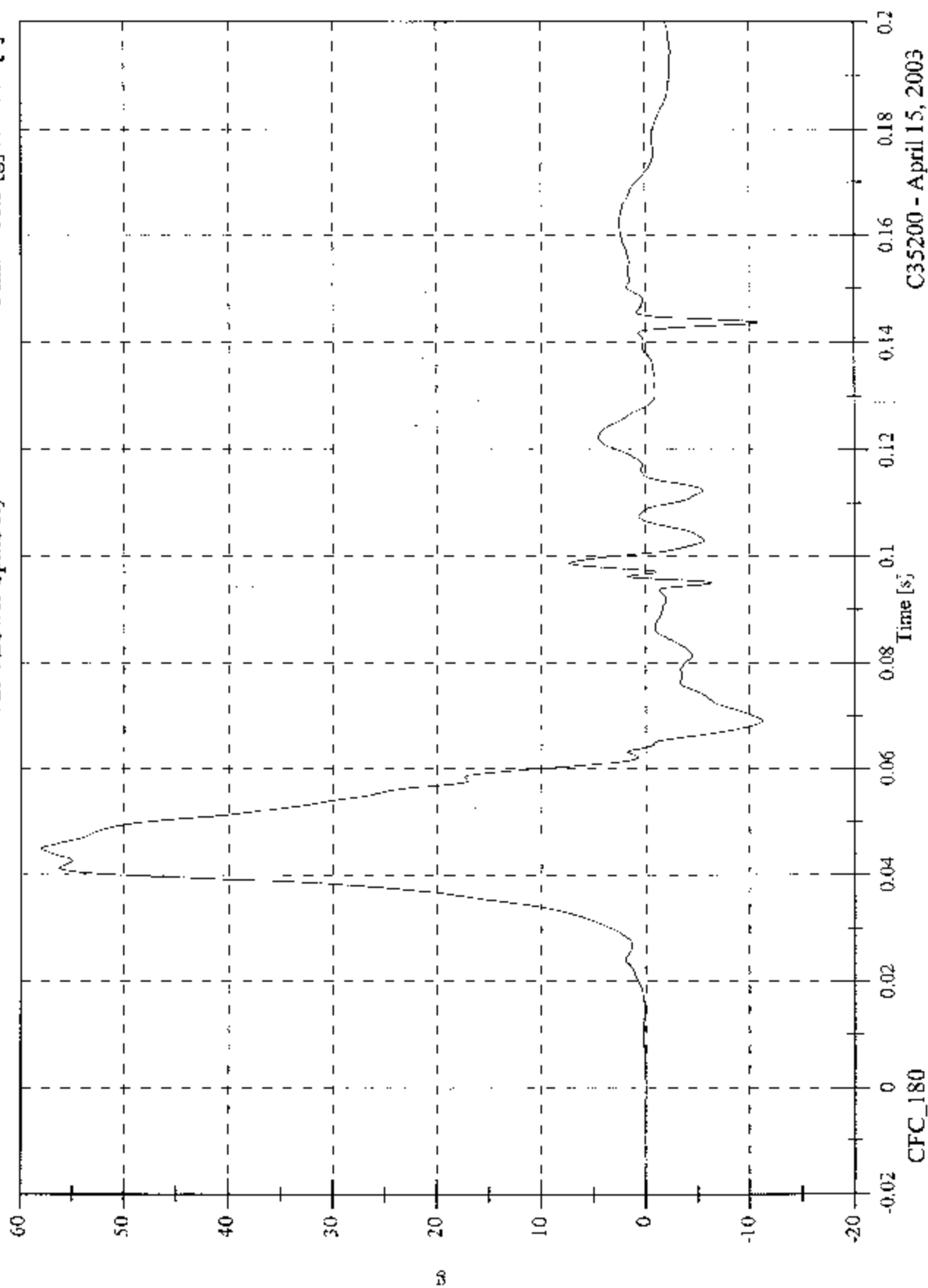
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 58.1 [g] at 0.045 [s]
Min: -11.2 [g] at 0.069 [s]

V2P4 Lower Spine Ry

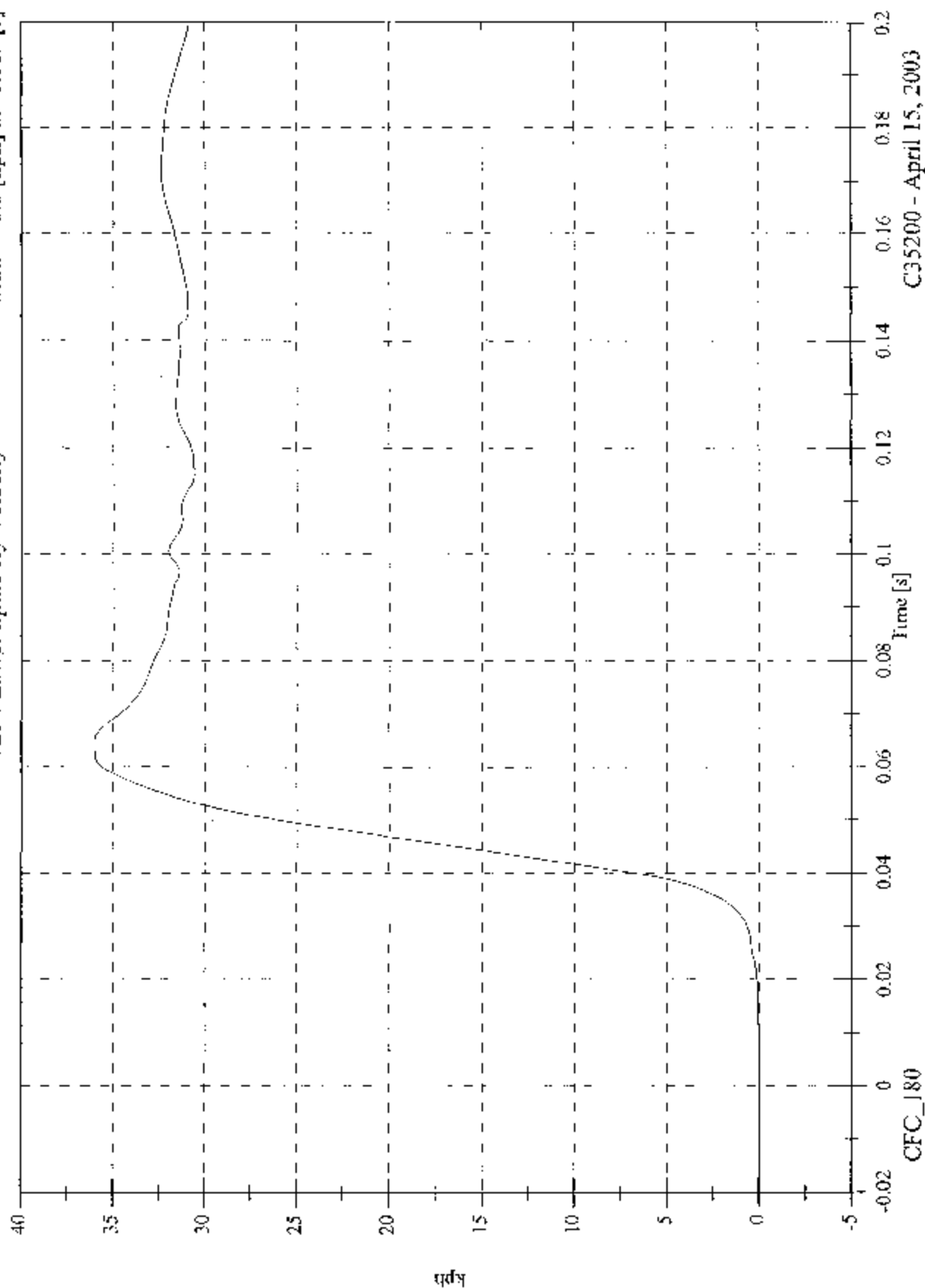


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 36.0 [kph] at 0.064 [s]
Min: -0.0 [kph] at -0.019 [s]

V2P4 Lower Spine Ry Velocity



CFC_180

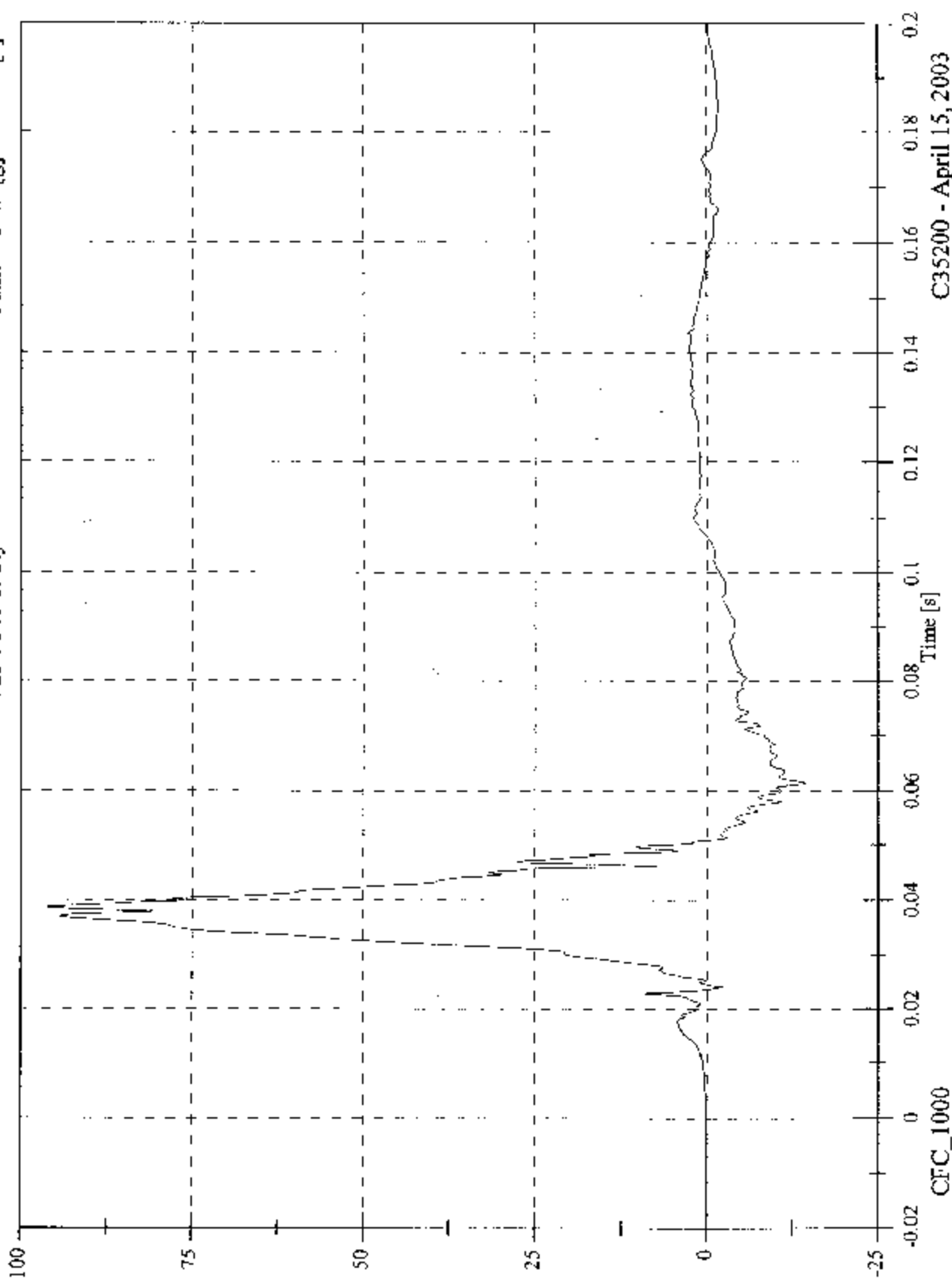
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 96.3 [g] at 0.039 [s]

Min: -14.5 [g] at 0.061 [s]

V2P4 Pelvic Ry



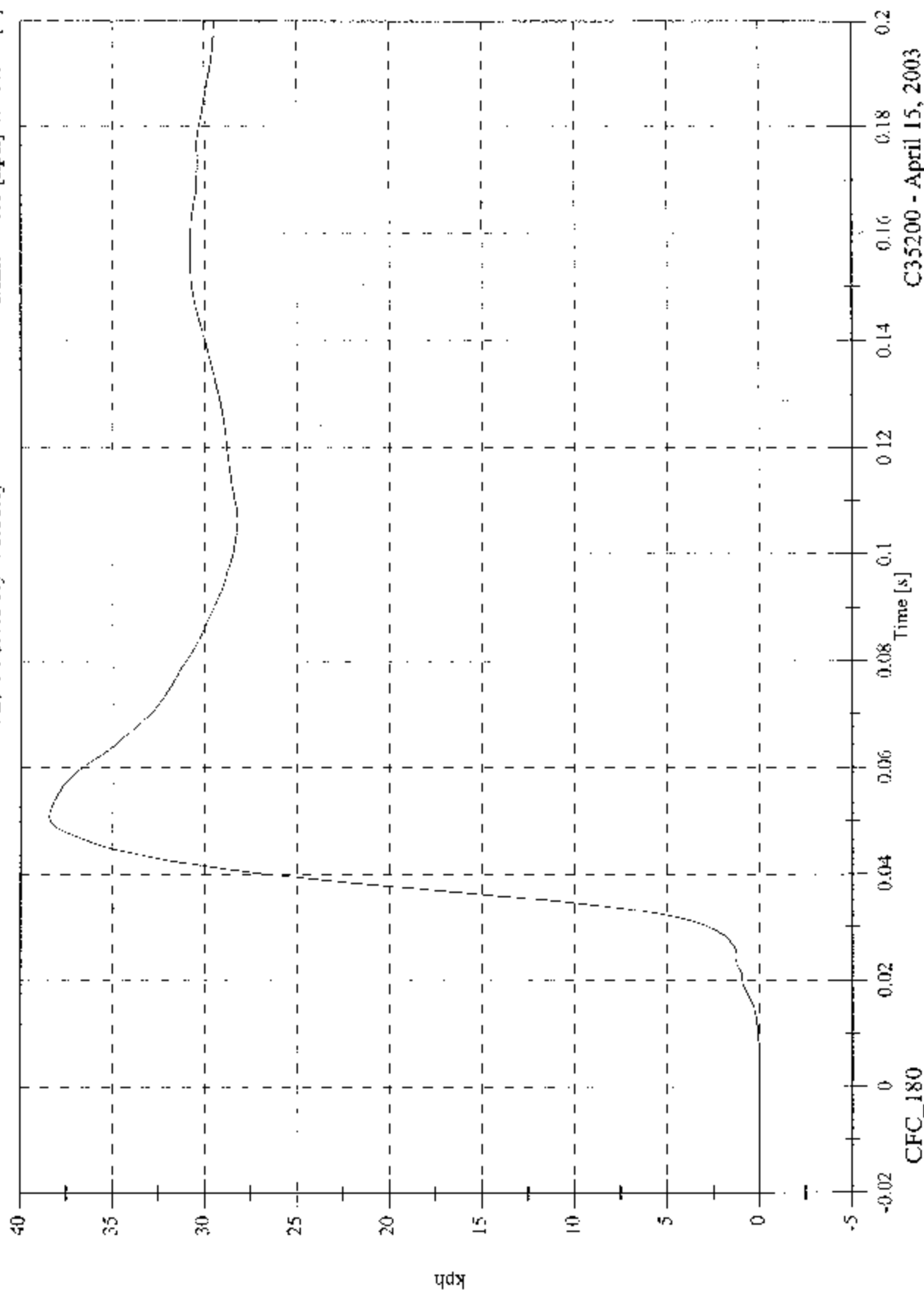
CFC_1000

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 38.4 [kph] at 0.051 [s]
 Min: -0.0 [kph] at -0.017 [s]

V2P4 Pelvic Ry Velocity



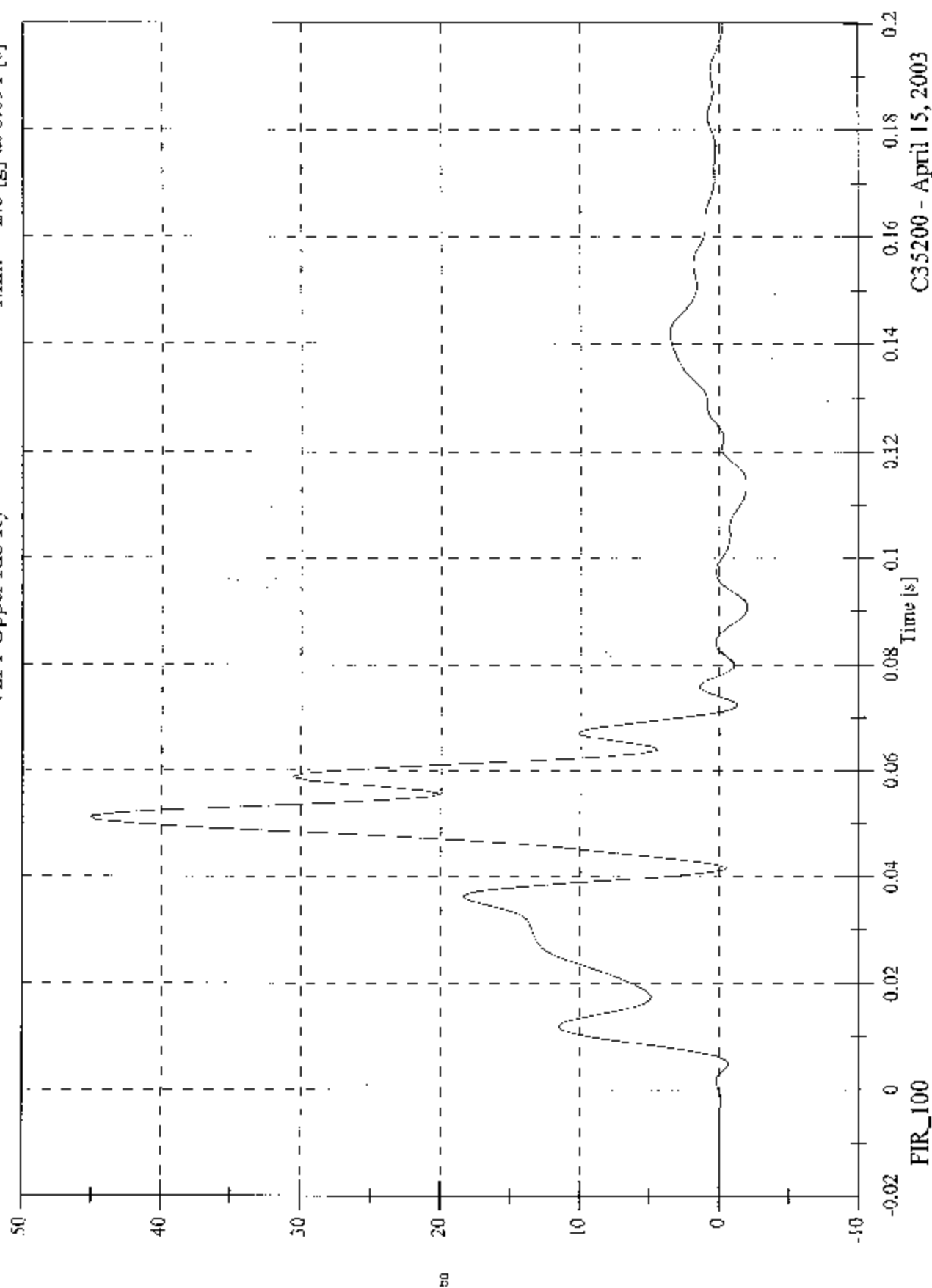
CFC_180

C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2PI Upper Rib Ry

Max: 45.1 [g] at 0.051 [s]
Min: -2.0 [g] at 0.091 [s]

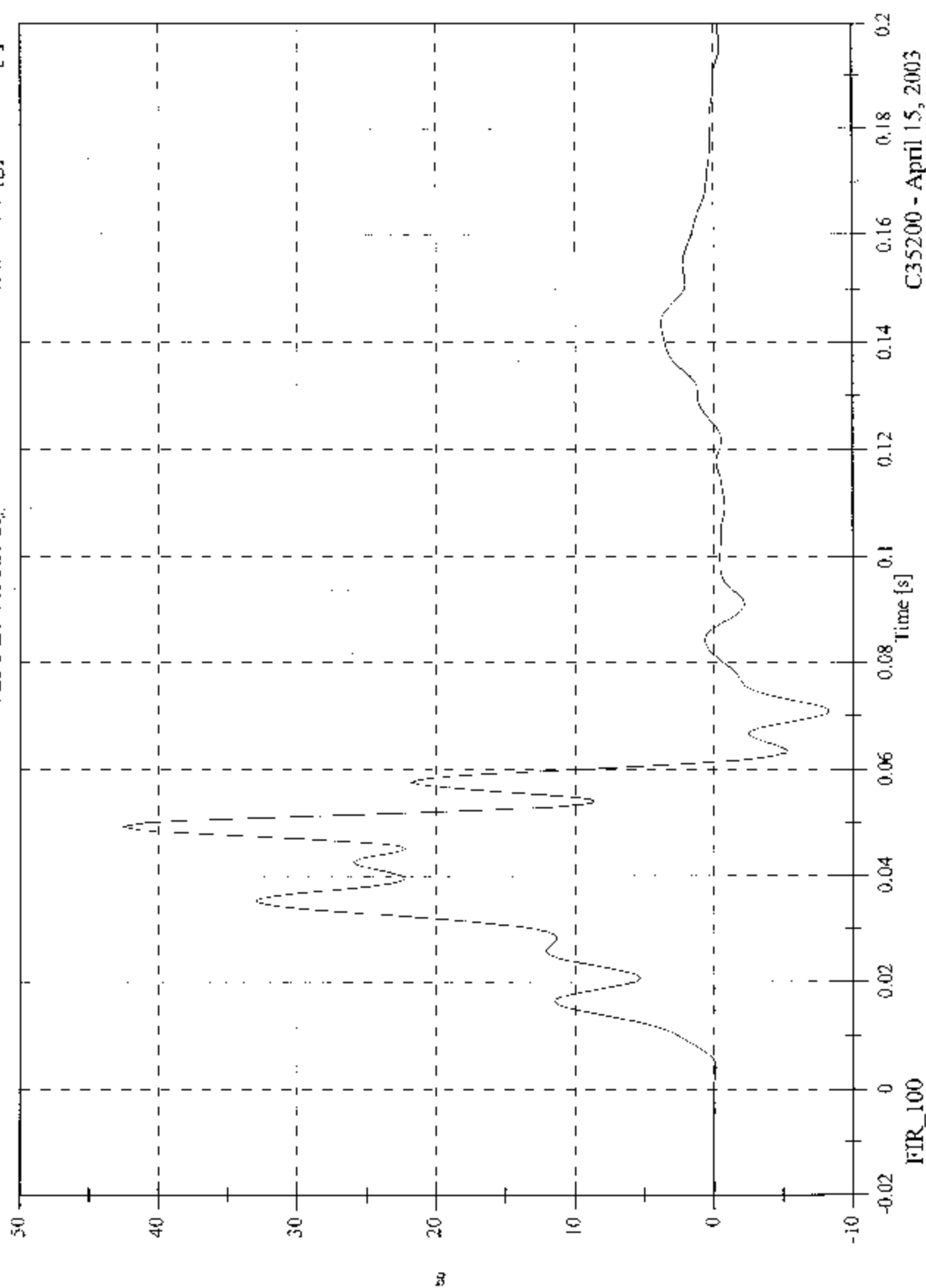


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Lower Rib Ry

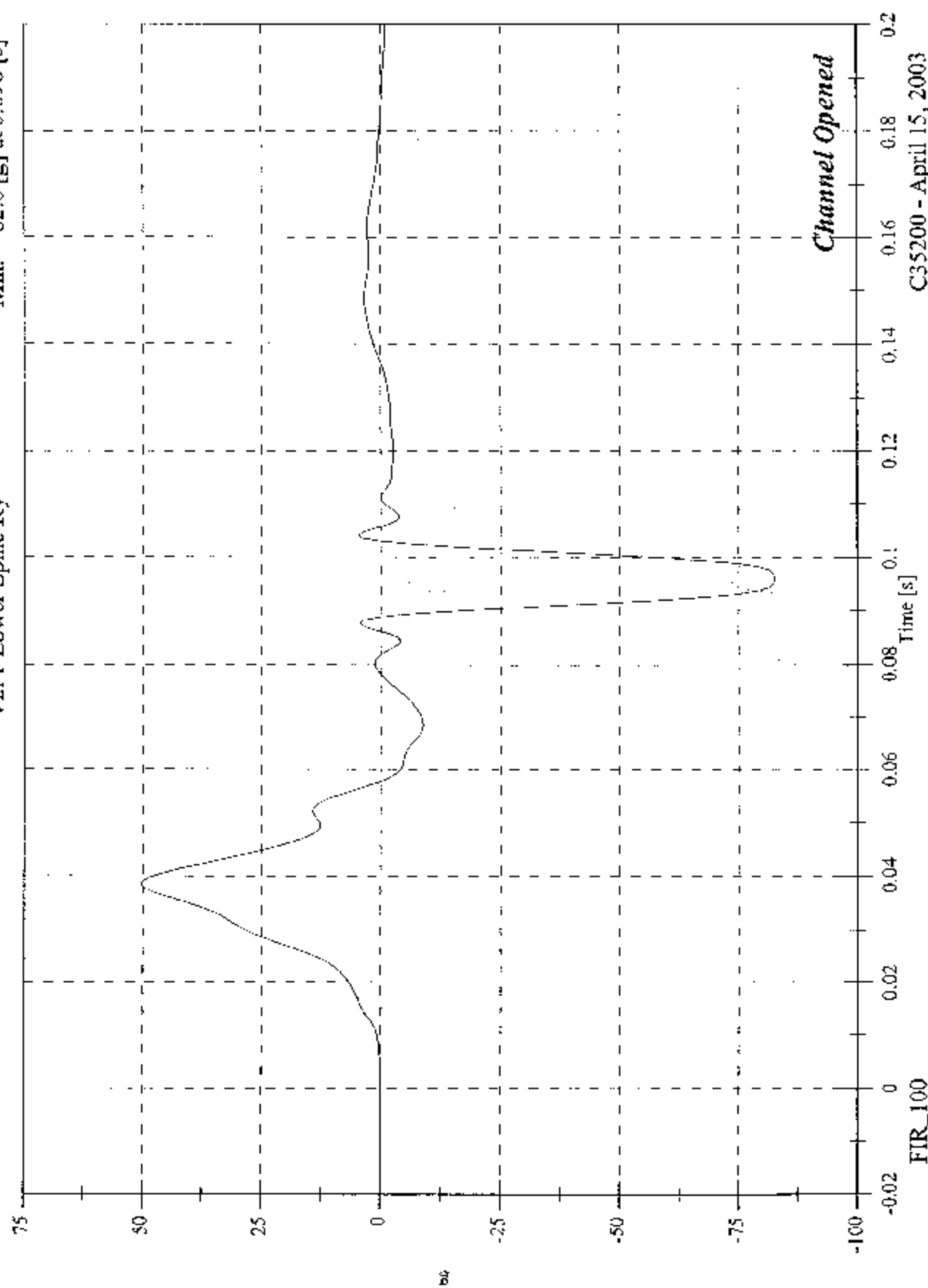
Max: 42.6 [g] at 0.049 [s]
Min: -8.3 [g] at 0.071 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2PI Lower Spine Ry

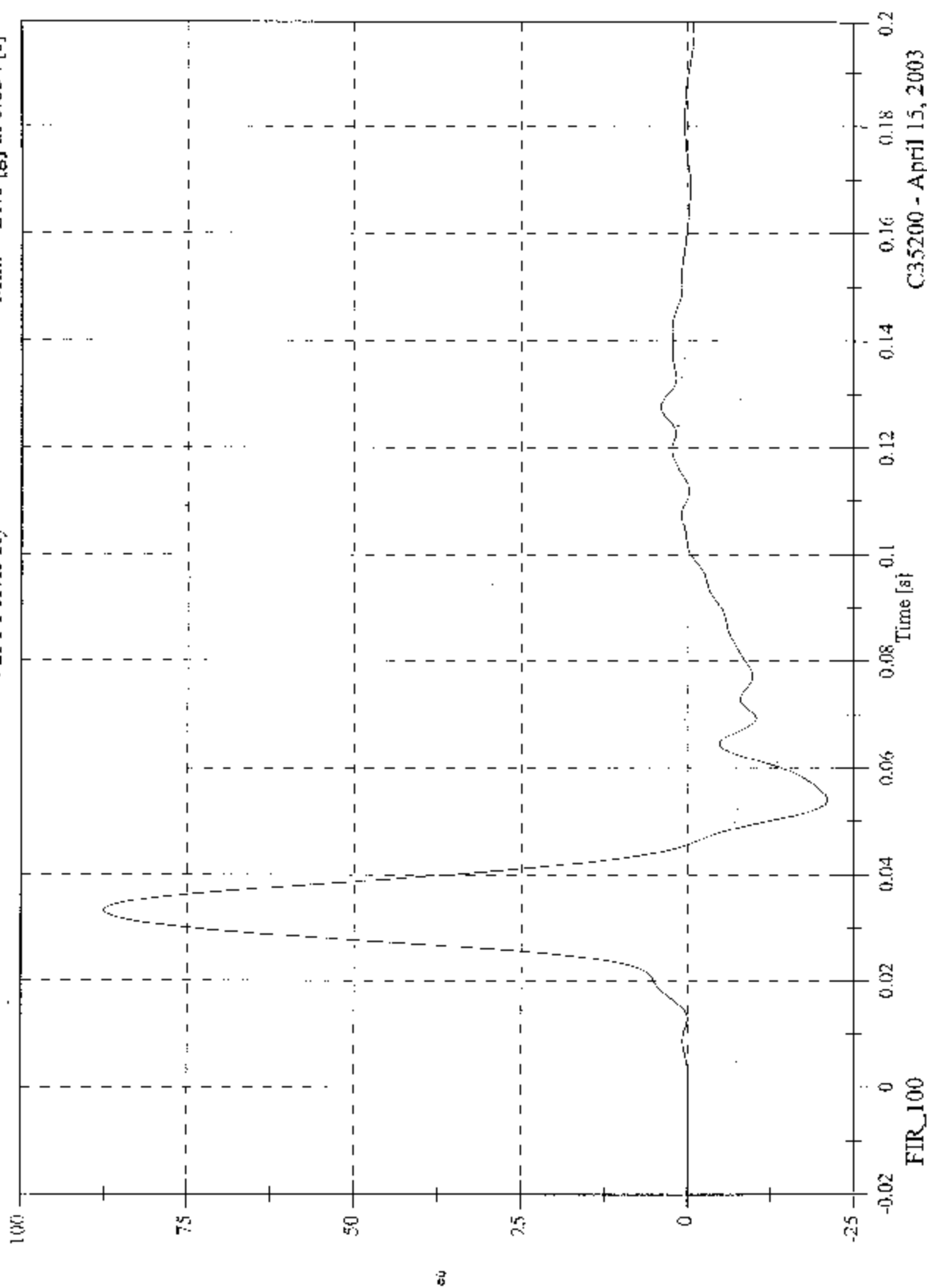
Max: 50.1 [g] at 0.038 [s]
Min: -82.6 [g] at 0.096 [s]



2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P1 Pelvic Ry

Max: 87.7 [g] at 0.033 [s]
Min: -21.0 [g] at 0.054 [s]

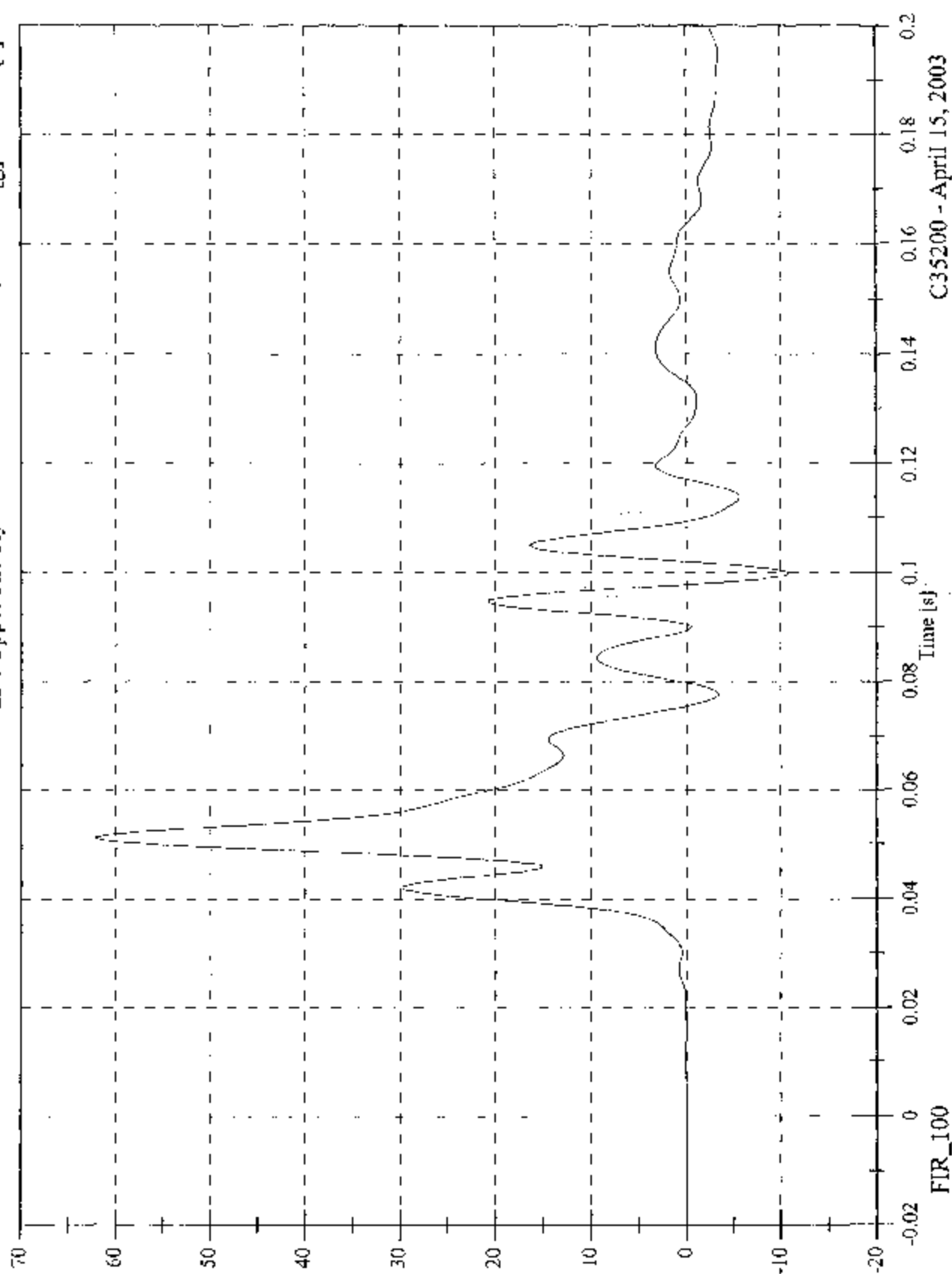


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Upper Rib Ry

Max: 62.2 [g] at 0.051 [s]
Min: -10.9 [g] at 0.100 [s]



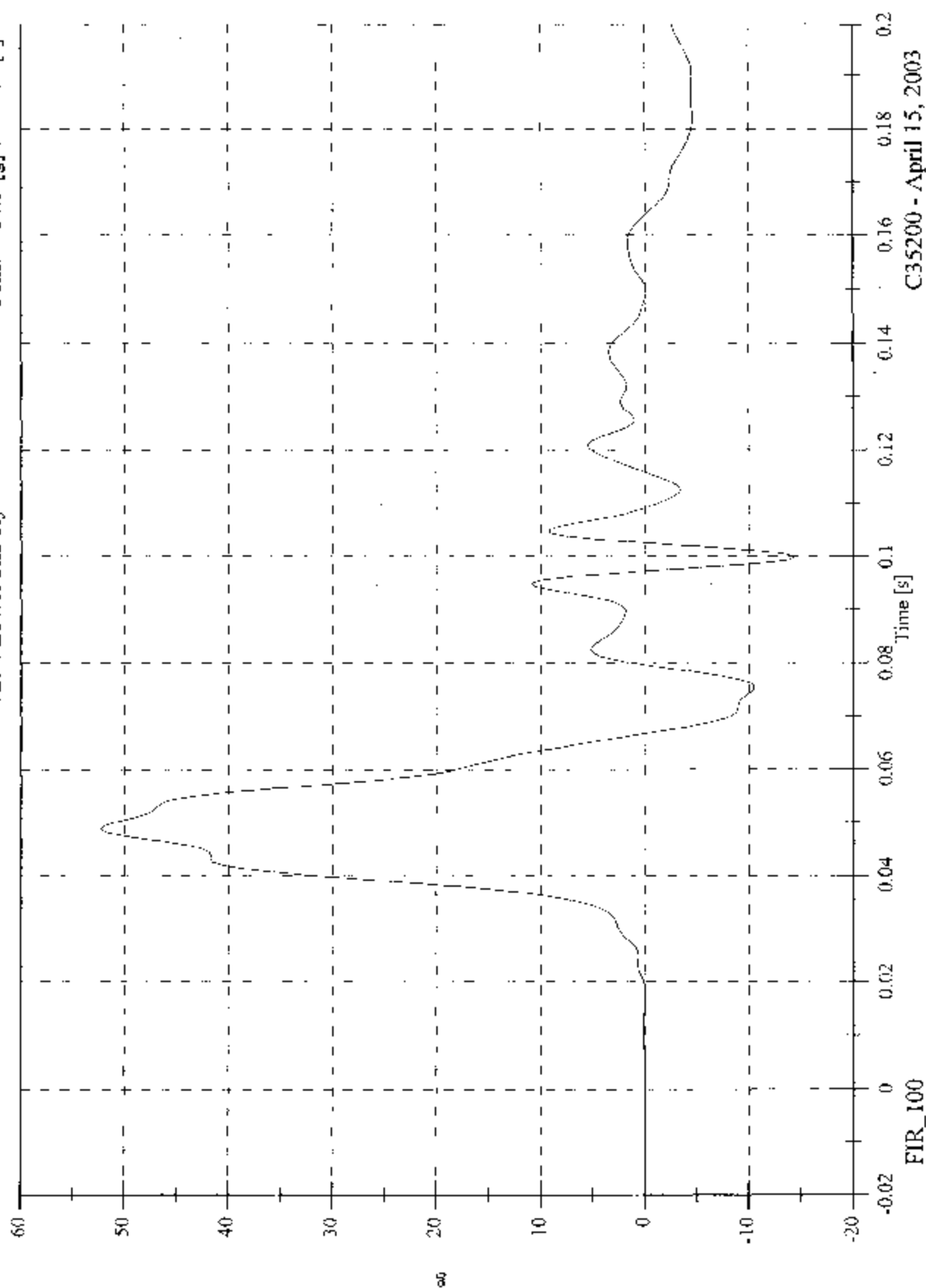
C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

Max: 52.3 [g] at 0.049 [s]

Min: -14.5 [g] at 0.100 [s]

V2P4 Lower Rib Ry

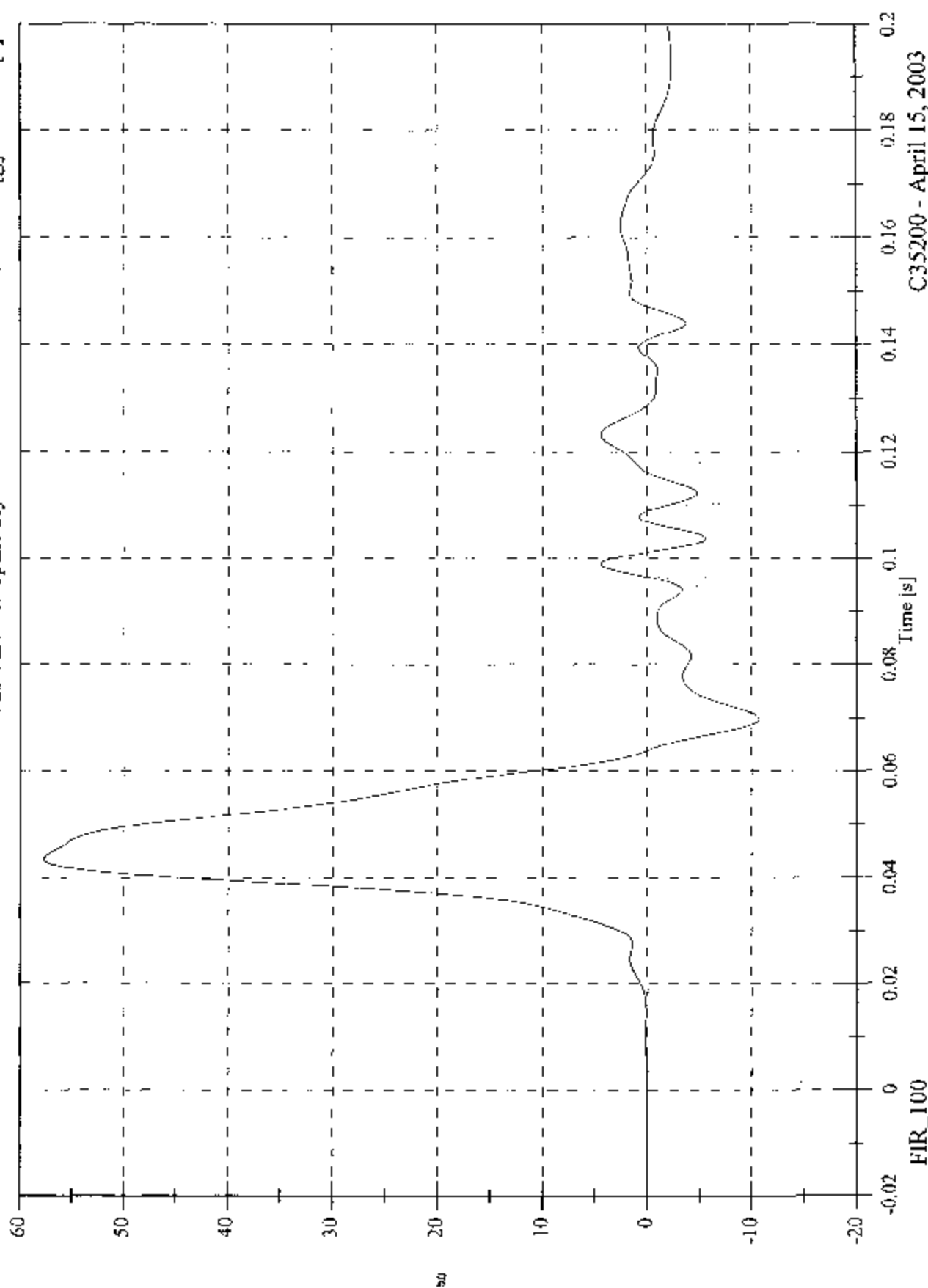


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Lower Spine Ry

Max: 57.7 [g] at 0.043 [s]
Min: -10.7 [g] at 0.070 [s]

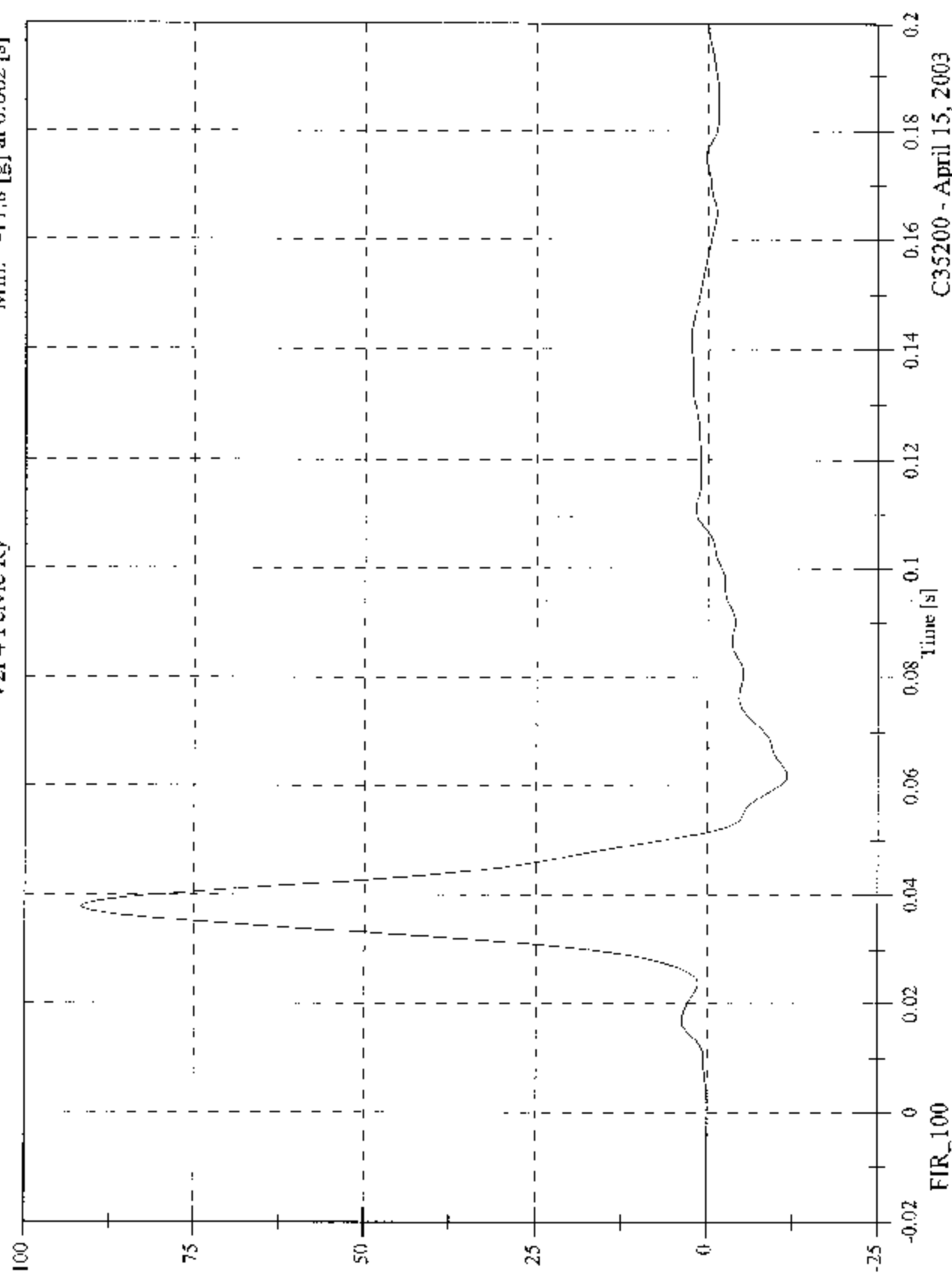


C35200 - April 15, 2003

2003 FMVSS 214D Test 5 2003 Nissan Murano SUV

V2P4 Pelvic Ry

Max: 91.7 [g] at 0.037 [s]
Min: -11.8 [g] at 0.062 [s]



C35200 - April 15, 2003

APPENDIX C

SID HYBRID III CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID H3 PRE & POST TEST CALIBRATION
CONFIGURED FOR LEFT SIDE IMPACT

Date: April 4, 2003; April 17, 2003

Sequential Test Number:

4:5

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID H3 015 NO.:		SID H3 016 NO.:	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	902	899
RH- Rib Height (mm)	501 - 521	511	511	513	513
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	239	239	239	239
KV- Knee Pivot from Back Line (mm)	511 - 526	521	521	521	521
SW- Knee Pivot to Floor (mm)	490 - 505	493	495	495	495
HW- Hip Width (mm)	356 - 391	381	371	371	368
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00	33	31.00	35
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.32	4.27	4.27
UPPER RIB (g's)	37 - 46	41.83	40.23	42.43	45.95
LOWER RIB (g's)	37 - 46	38.49	40.05	40.05	41.51
LOWER SPINE (g's)	15 - 22	18.75	20.25	20.37	21.93
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.00	33	34.0	35
PROBE SPEED (m/s)	4.27 - 4.33	4.28	4.29	4.27	4.28
PELVIS (g's)	40 - 60	40.27	40.64	45.33	47.79

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID II3 NO.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swieczicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST
CONFIGURED FOR LEFT SIDE IMPACT**

SID H3 Serial No.: 015 Sequential Test Number: 4
 Date: April 4, 2003 Laboratory Technician: B. Swieczicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	381

REMARKS: None

THORACIC SHOCK ABSORBER TESTS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: February 3, 2003 Laboratory Technician: B. Swiecicki

DAMPER IDENTIFICATION: _____

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	29.00
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1122.40
	DISPLACEMENT (mm)	30 - 35	30.16
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	2063.48
	DISPLACEMENT (mm)	32 - 37	35.62
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4399.67
	DISPLACEMENT (mm)	33 - 40	38.49

DAMPER SETTING: 5

REMARKS: None

015 Shock Low at 3.05 m/s

Low Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 015

Work File:

015SL 2-03-03

TEST RESULTS

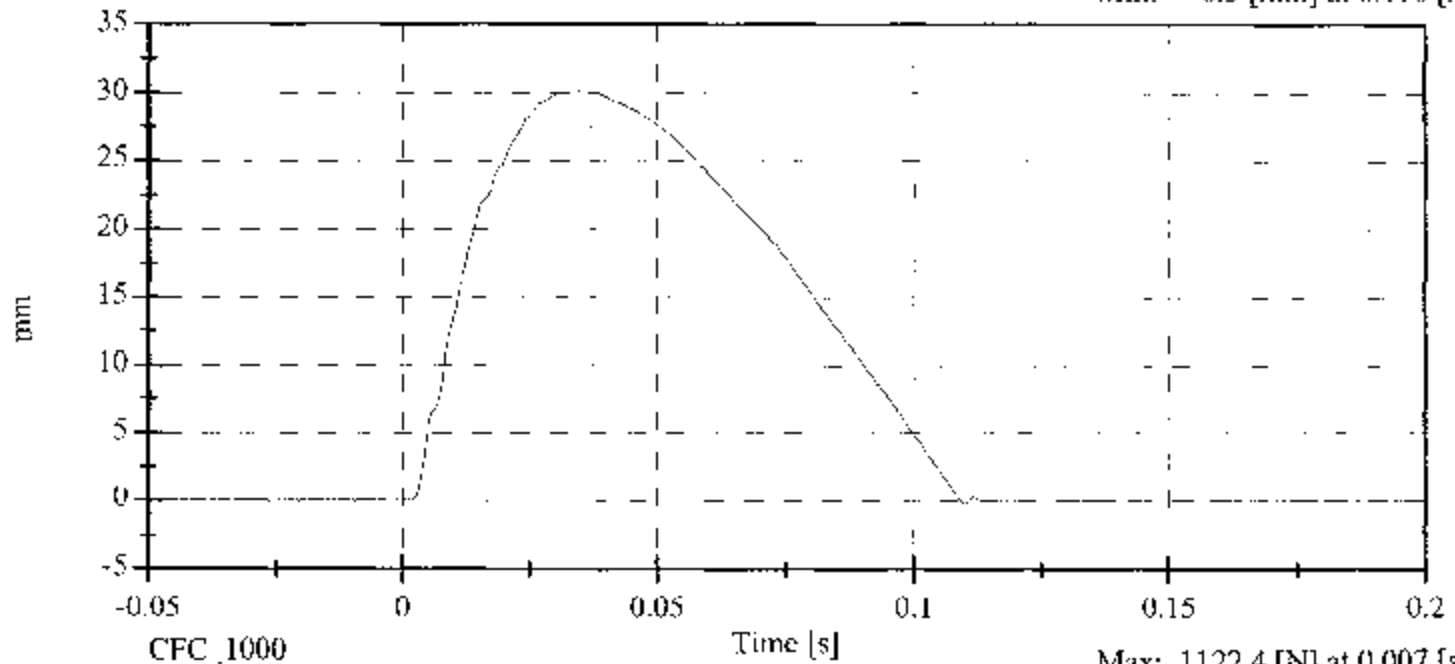
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	30.00-35.00 mm	30.16 mm	Passed
Maximum Force:	836.00-1125.00 N	1122.40 N	Passed

015 Shock Low

Displacement vs. Time

Max: 30.2 [mm] at 0.035 [s]

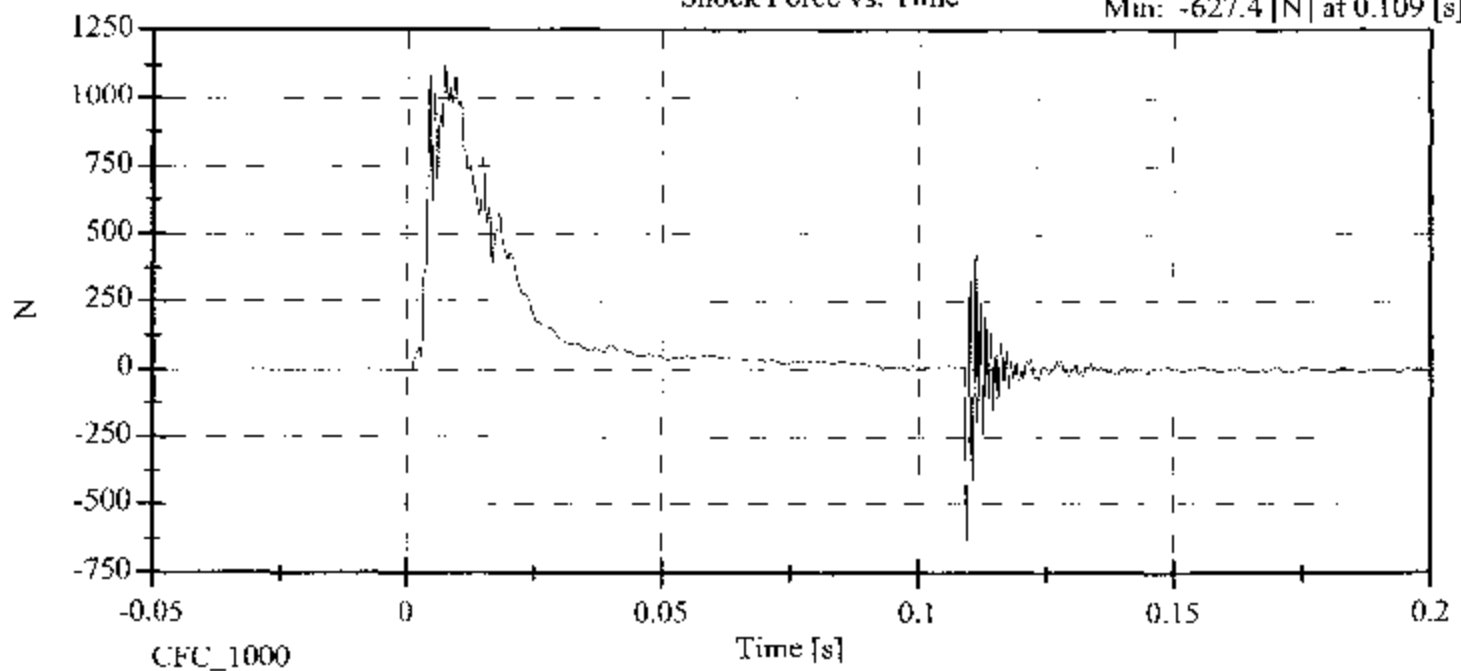
Min: -0.3 [mm] at 0.110 [s]



Shock Force vs. Time

Max: 1122.4 [N] at 0.007 [s]

Min: -627.4 [N] at 0.109 [s]



015 Shock Medium at 4.27 m/s

Medium Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No:

015

Work File:

015SM1 2-03-03

TEST RESULTS

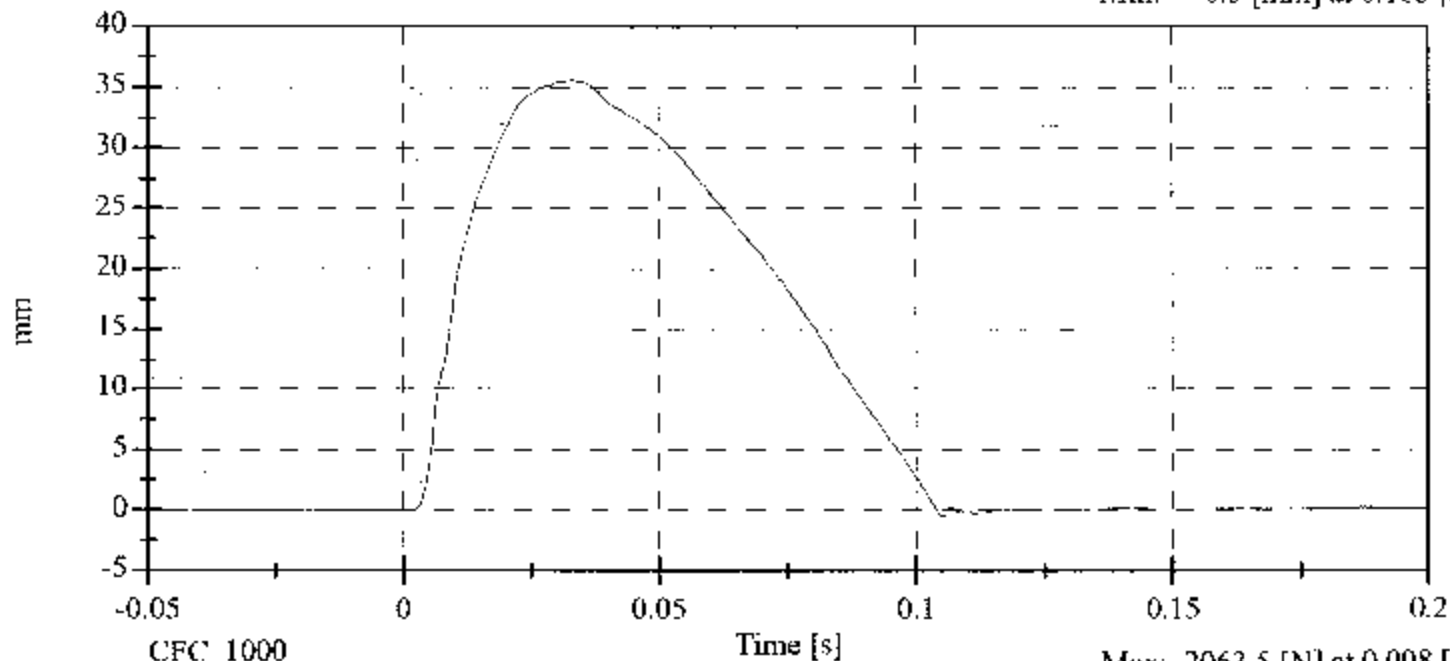
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	32.00-37.00 mm	35.62 mm	Passed
Maximum Force:	1730.00-2099.00 N	2063.48 N	Passed

015 Shock Medium

Displacement vs. Time

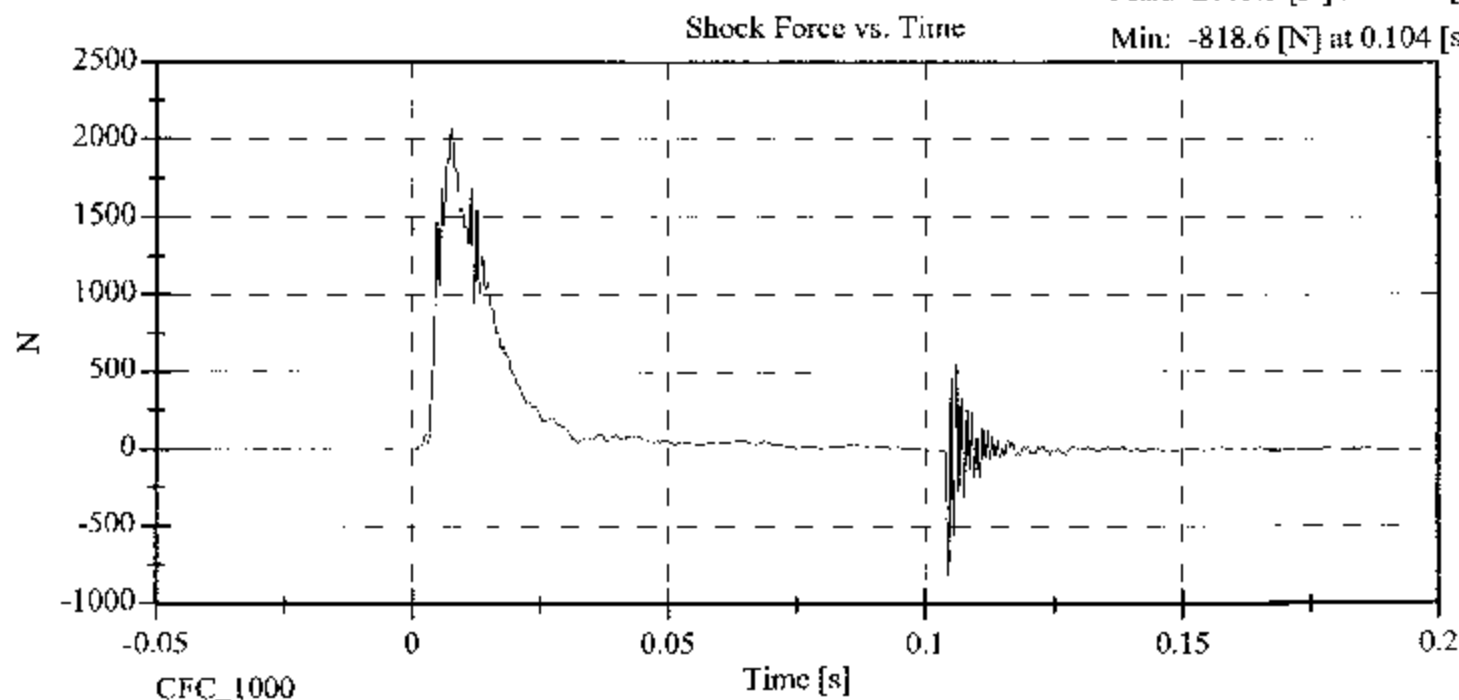
Max: 35.6 [mm] at 0.033 [s]

Min: -0.5 [mm] at 0.105 [s]



Max: 2063.5 [N] at 0.008 [s]

Min: -818.6 [N] at 0.104 [s]



015 Shock High at 6.10 m/s

High Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 015

Work File:

015SH 2-03-03

TEST RESULTS

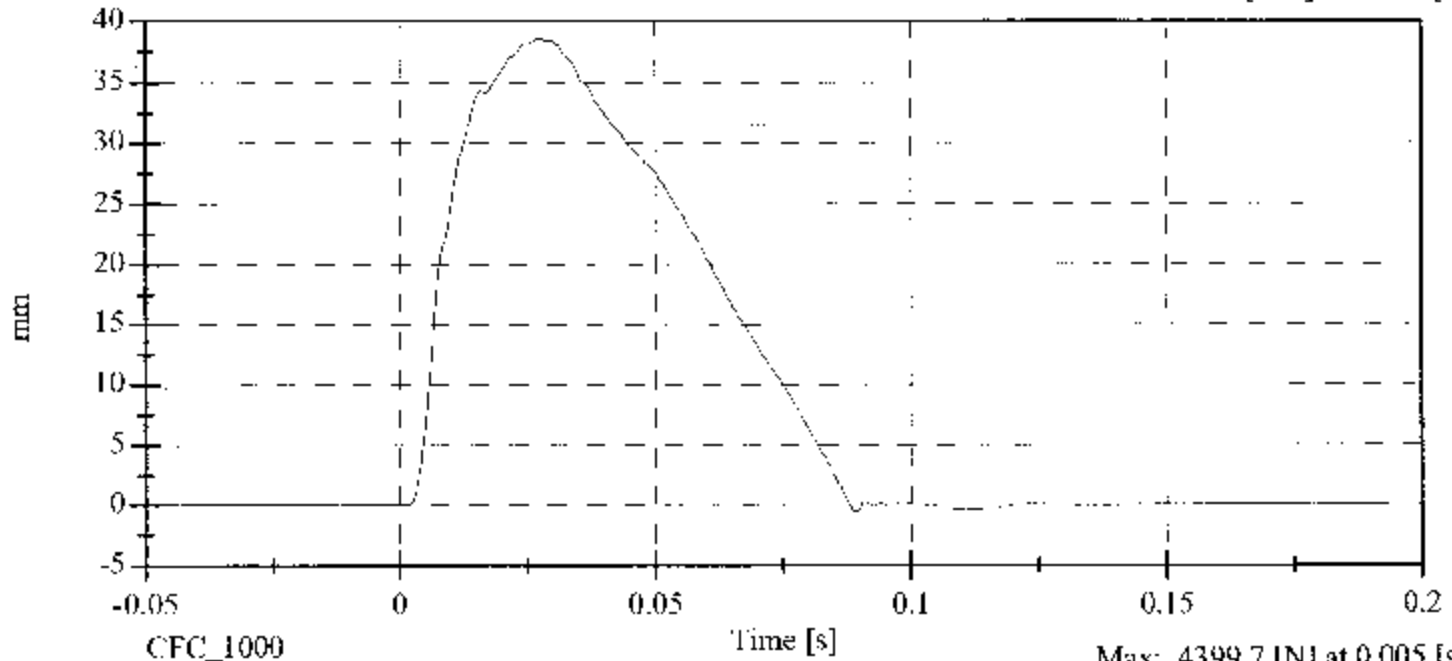
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	33.00-40.00 mm	38.49 mm	Passed
Maximum Force:	3741.00-4448.00 N	4399.67 N	Passed

015 Shock High

Displacement vs. Time

Max: 38.5 [mm] at 0.028 [s]

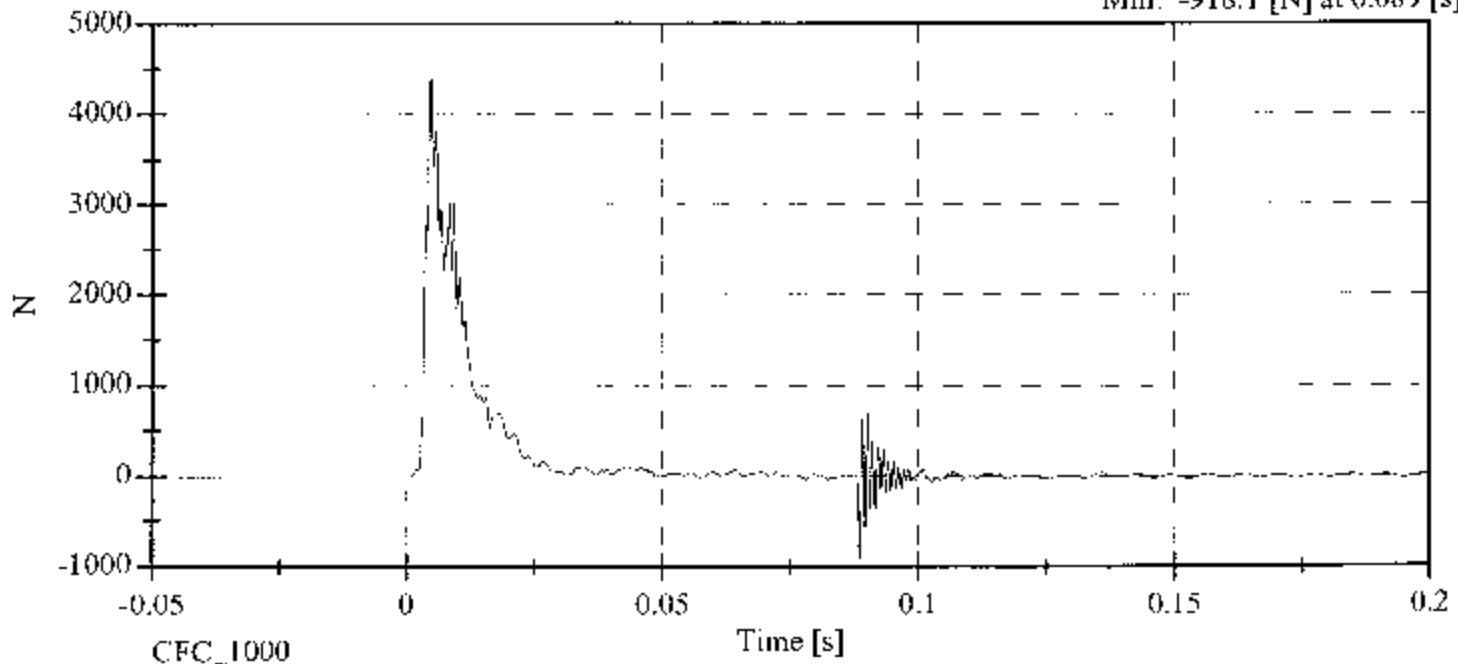
Min: -0.6 [mm] at 0.089 [s]



Shock Force vs. Time

Max: 4399.7 [N] at 0.005 [s]

Min: -918.1 [N] at 0.089 [s]



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number:

4

Date: April 4, 2003

Laboratory Technician:

B. Swiecicki

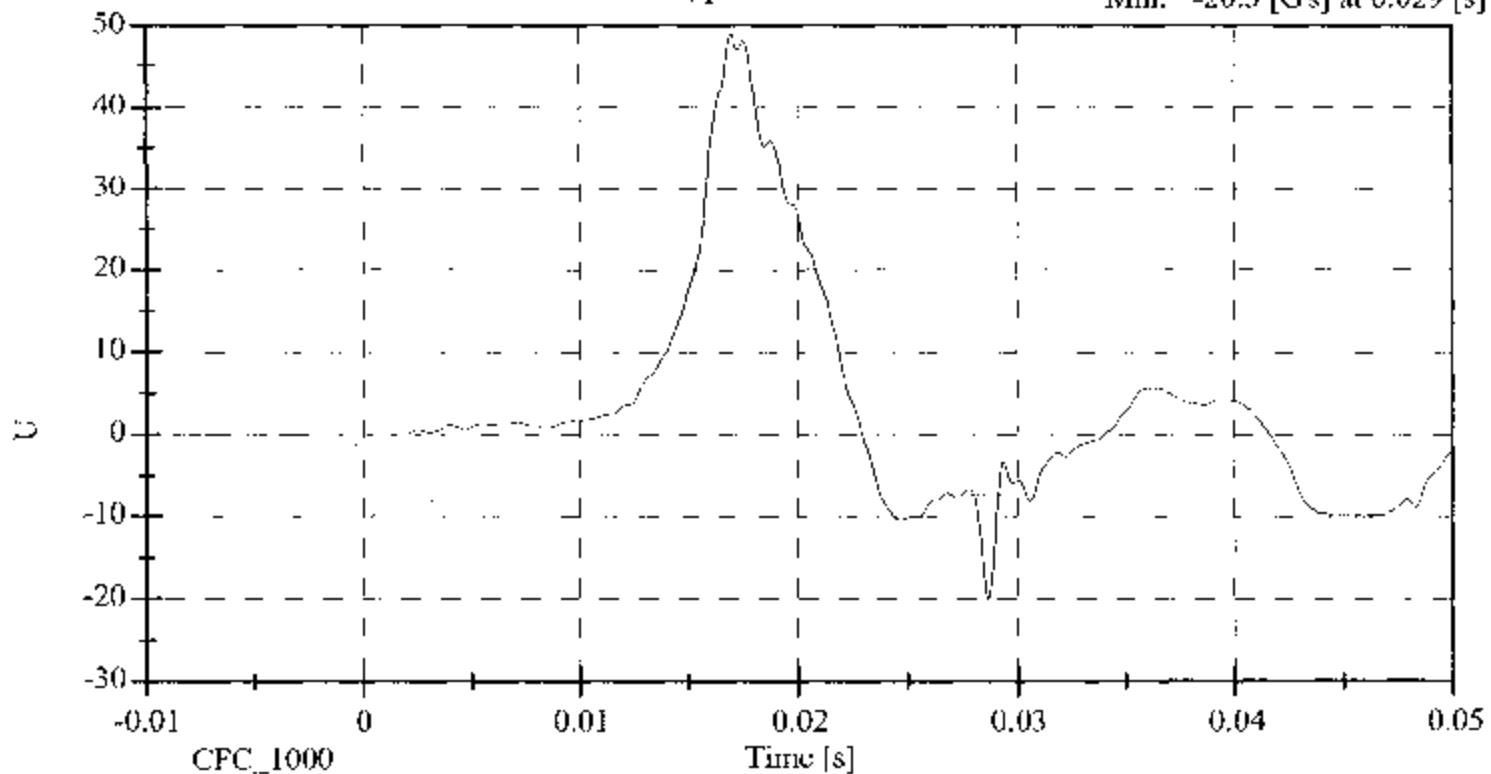
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46	41.83
LOWER RIB (g's)	37 - 46	38.49
LOWER SPINE (g's)	15 - 22	18.75

REMARKS: None

Upper Rib Y Acceleration

Max: 49.0 [G's] at 0.017 [s]

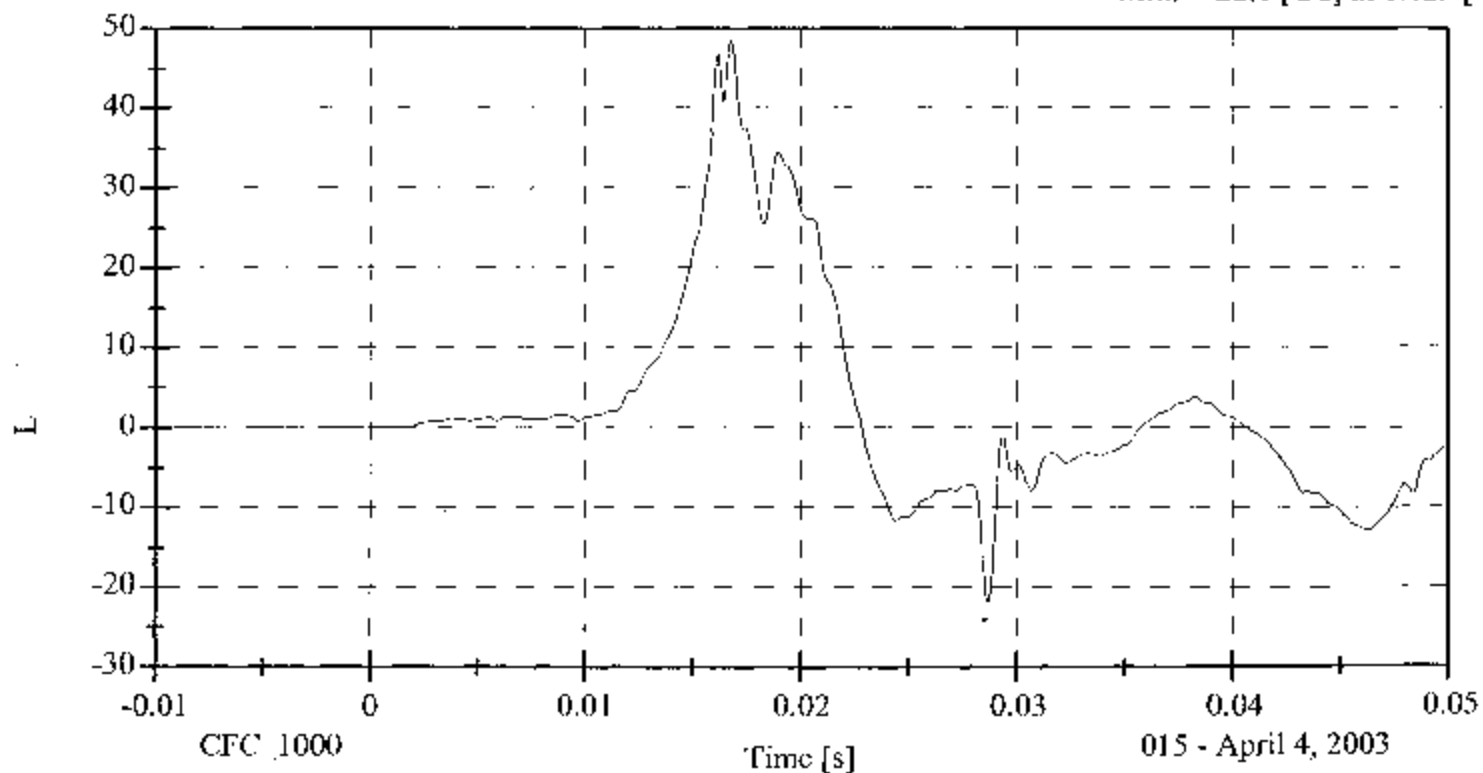
Min: -20.3 [G's] at 0.029 [s]



Lower Rib Y Acceleration

Max: 48.7 [G's] at 0.017 [s]

Min: -22.0 [G's] at 0.029 [s]

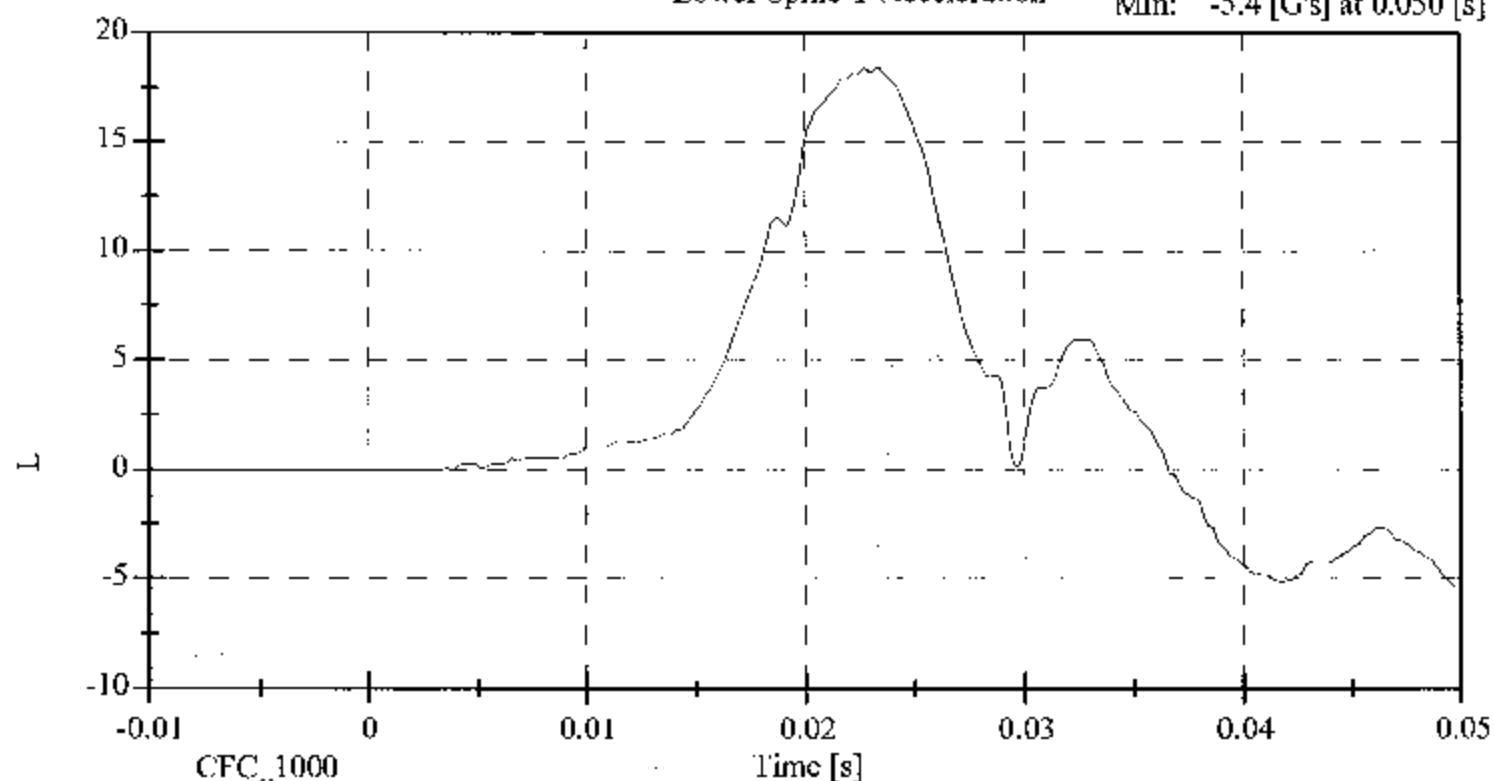


015 - April 4, 2003

Lower Spine Y Acceleration

Max: 18.4 [G's] at 0.023 [s]

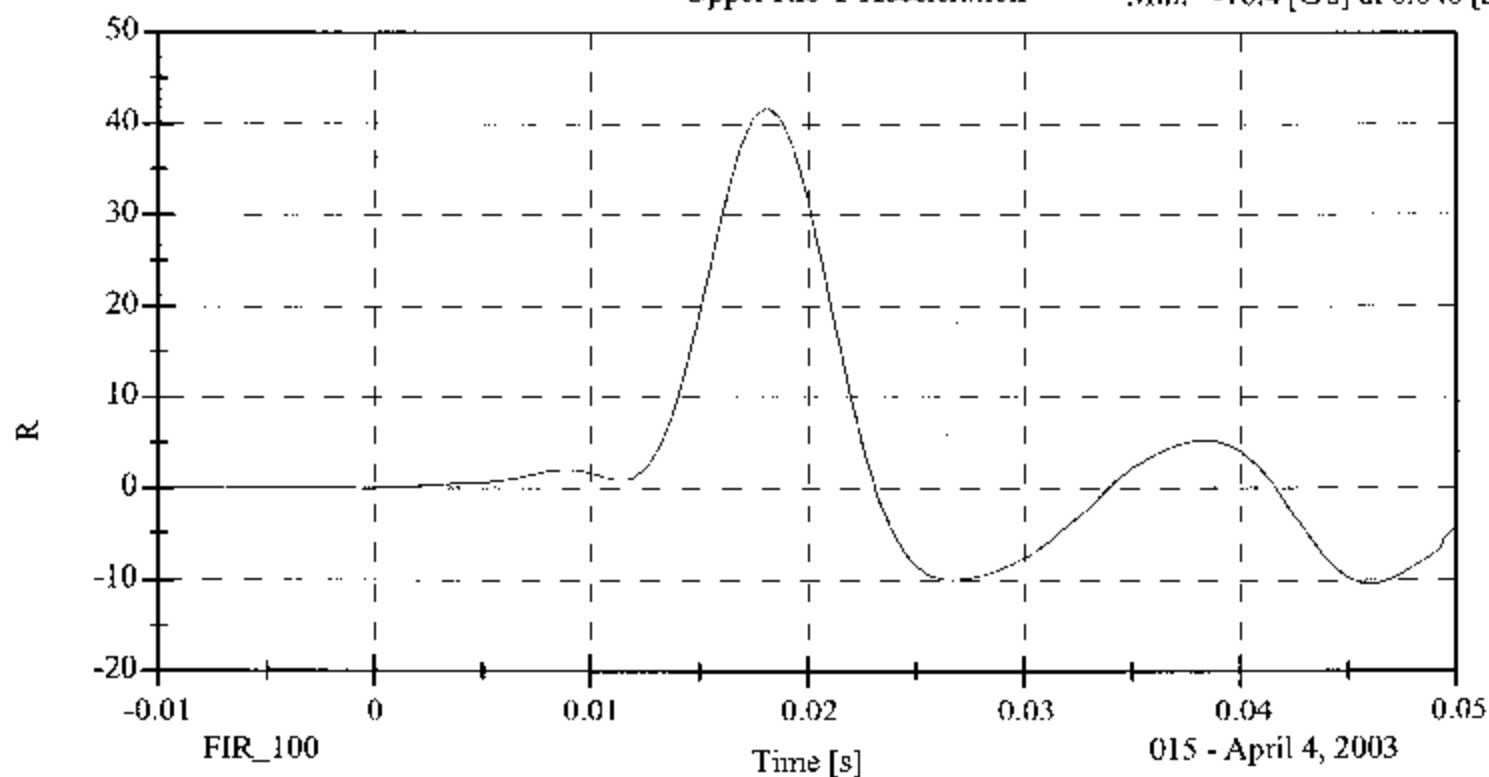
Min: -5.4 [G's] at 0.050 [s]



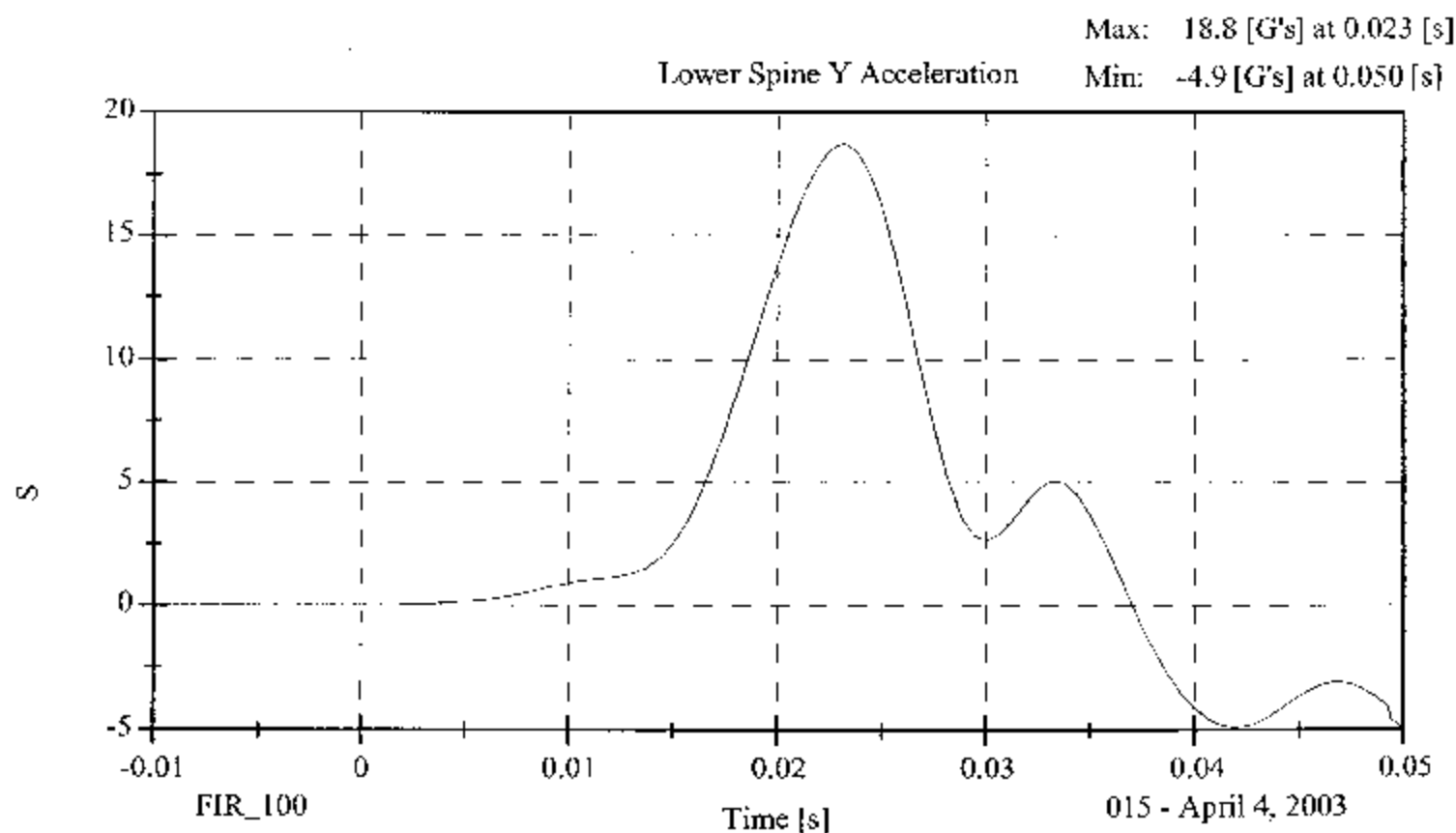
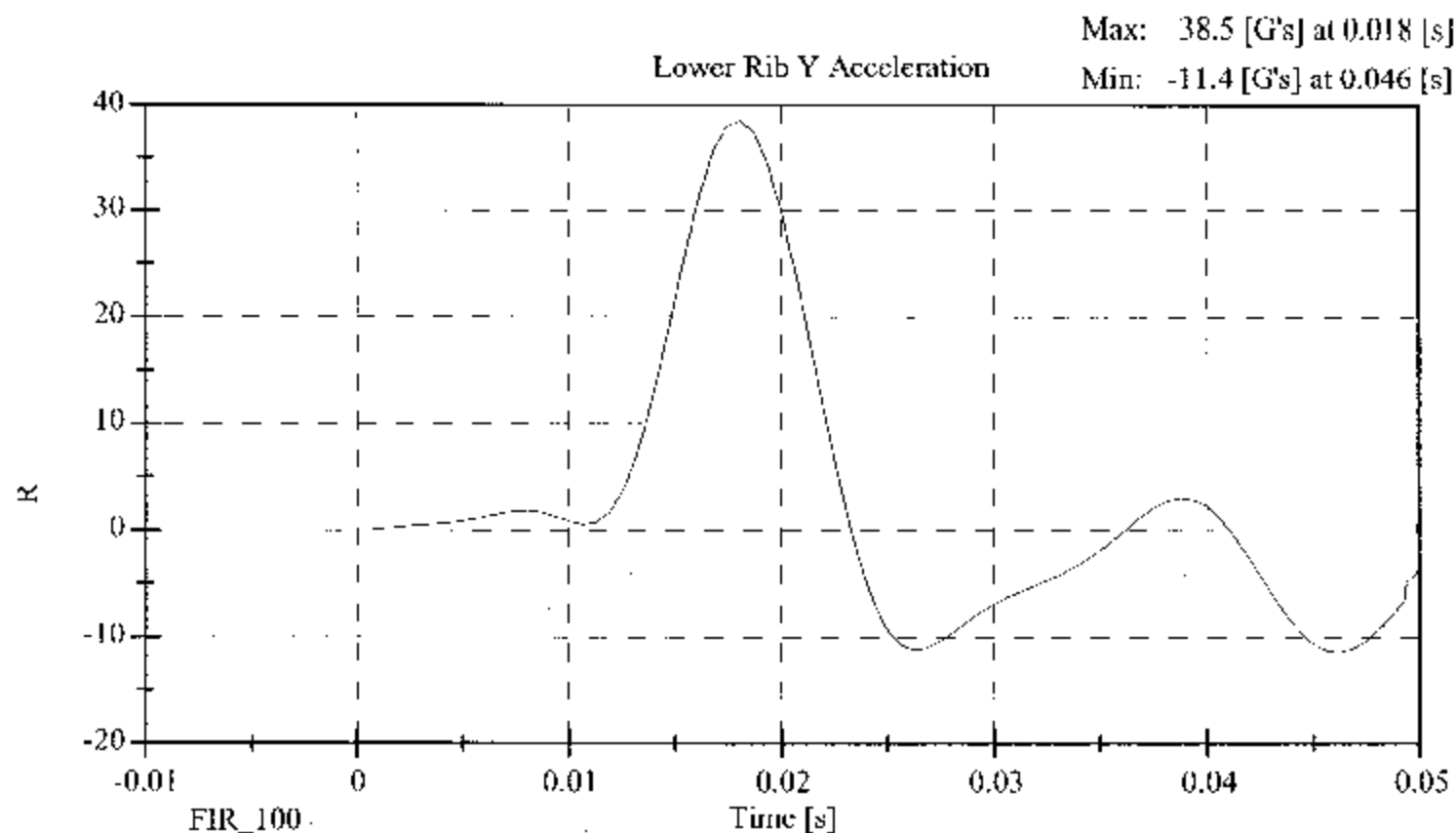
Upper Rib Y Acceleration

Max: 41.8 [G's] at 0.018 [s]

Min: -10.4 [G's] at 0.046 [s]



015 - April 4, 2003



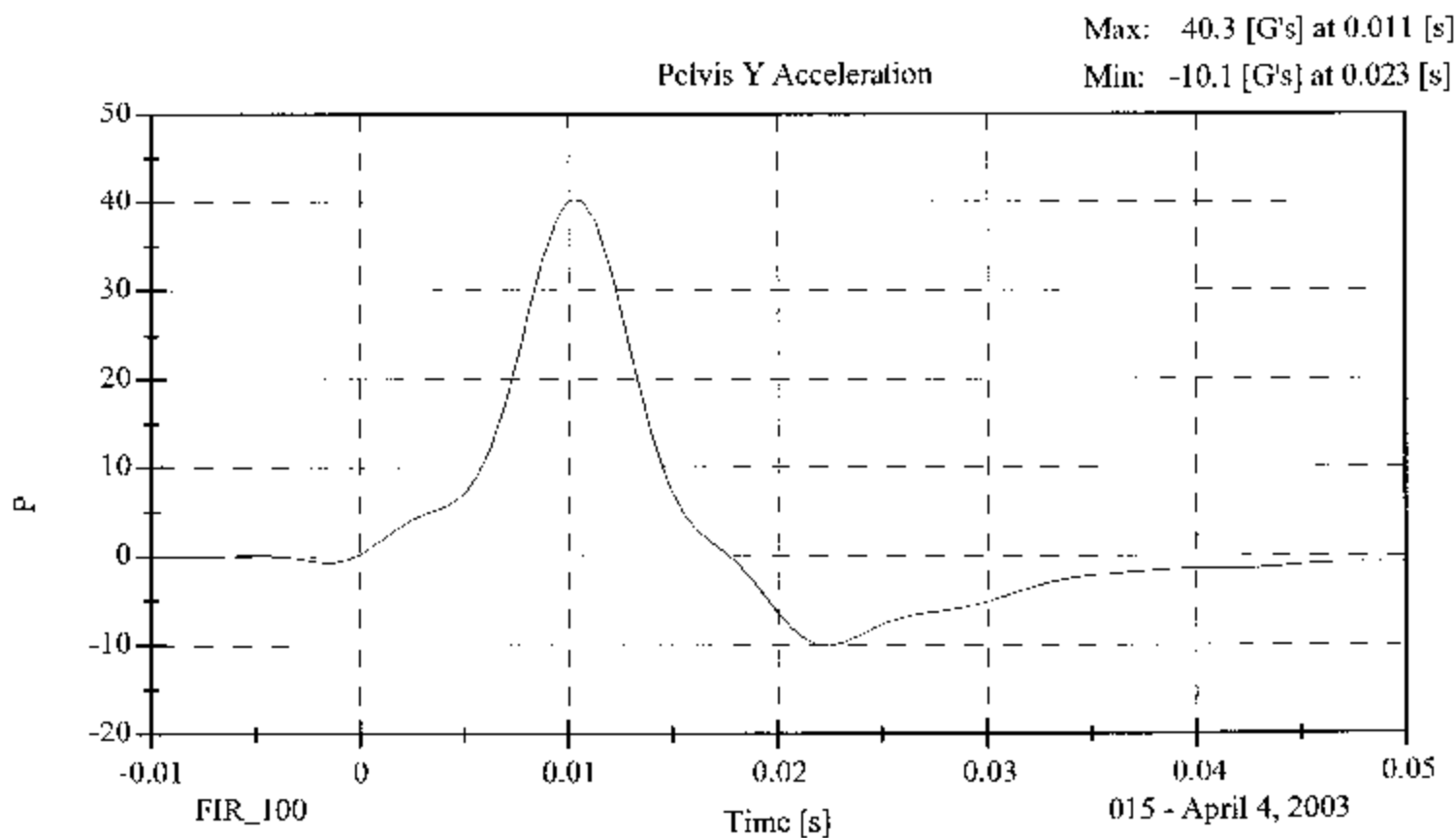
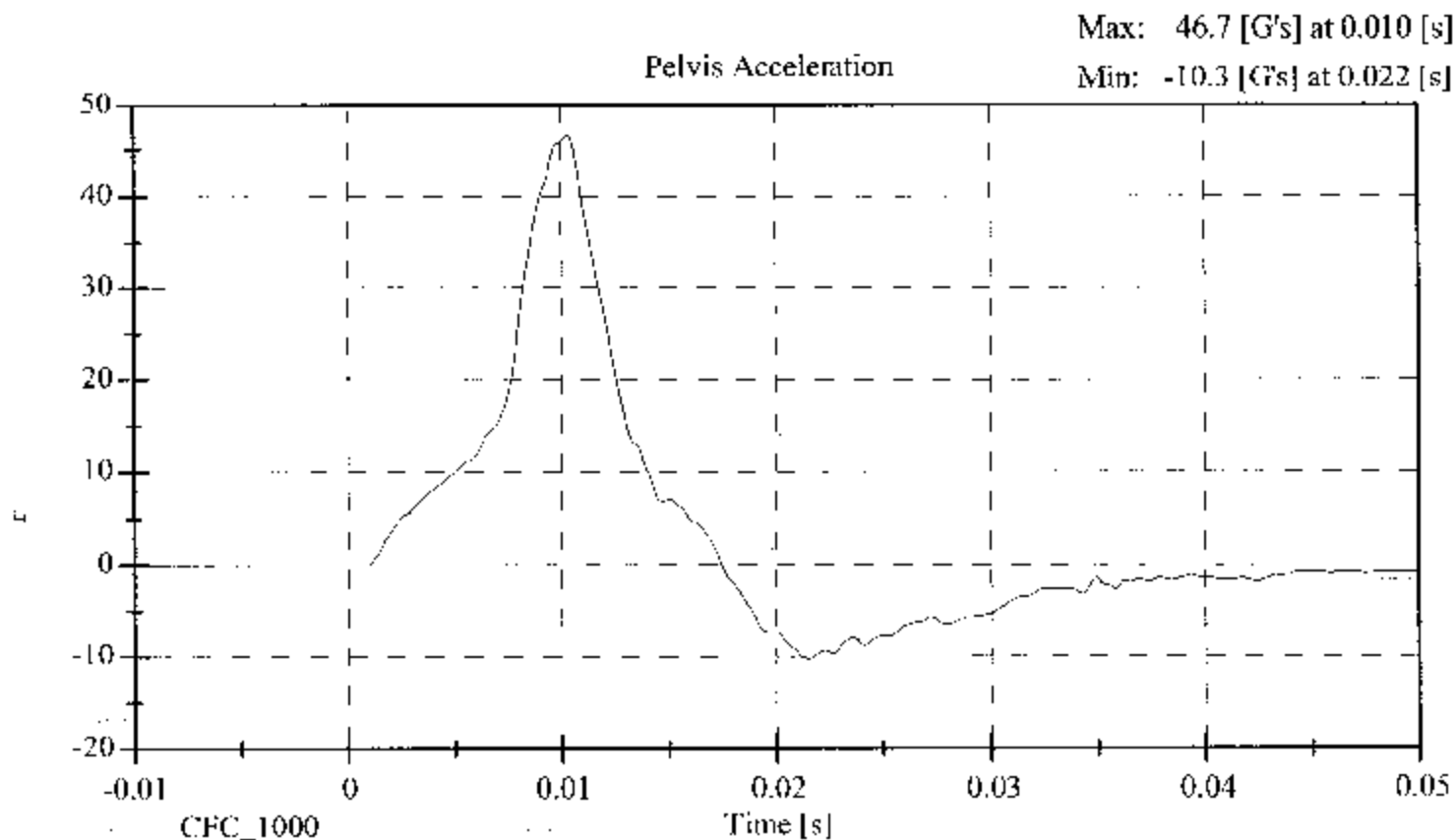
LATERAL PELVIS IMPACT TEST
PRE-TEST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swieczicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32.00
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	40.27

REMARKS: None

Pelvic Impact



015 - April 4, 2003

HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

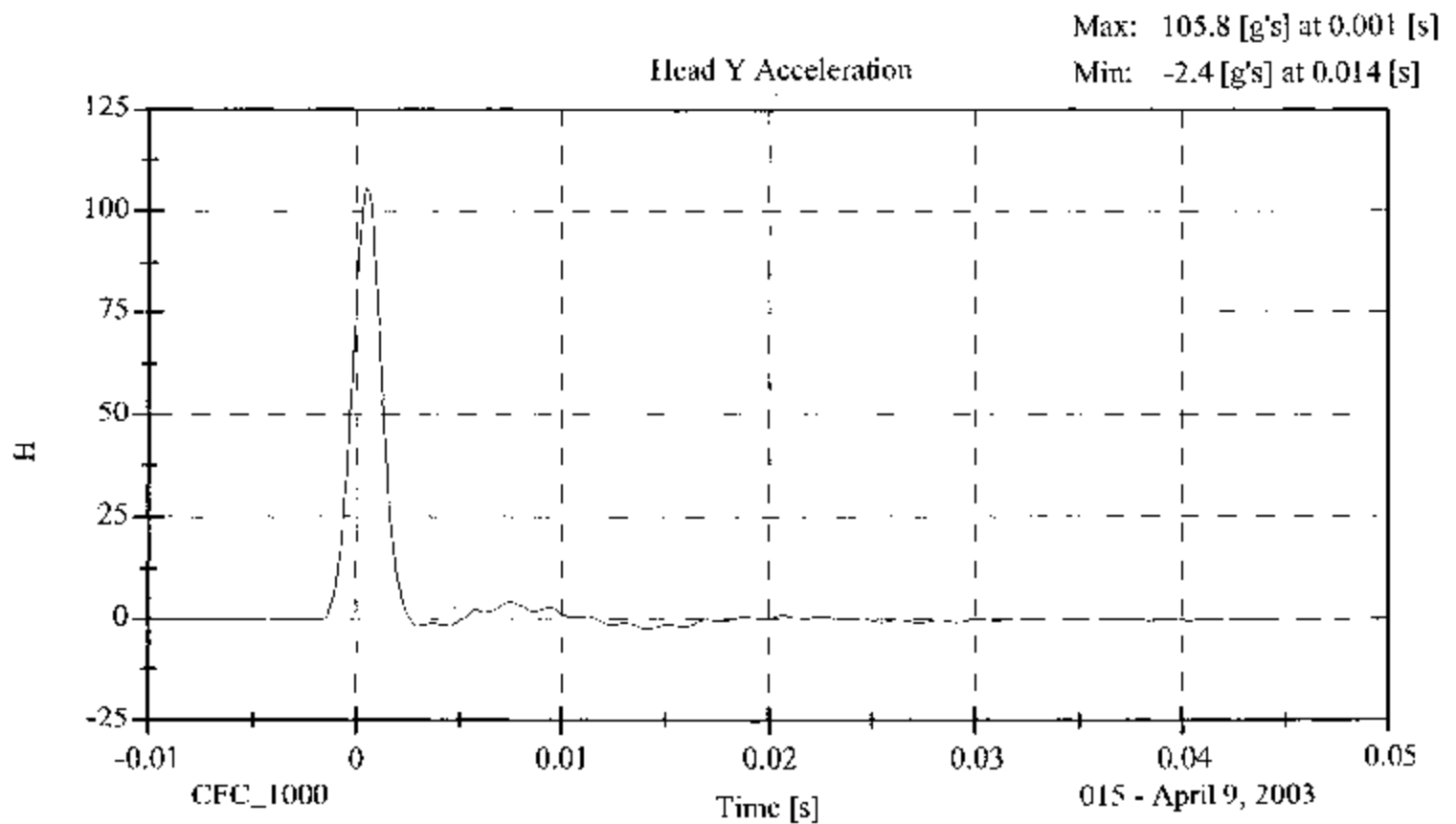
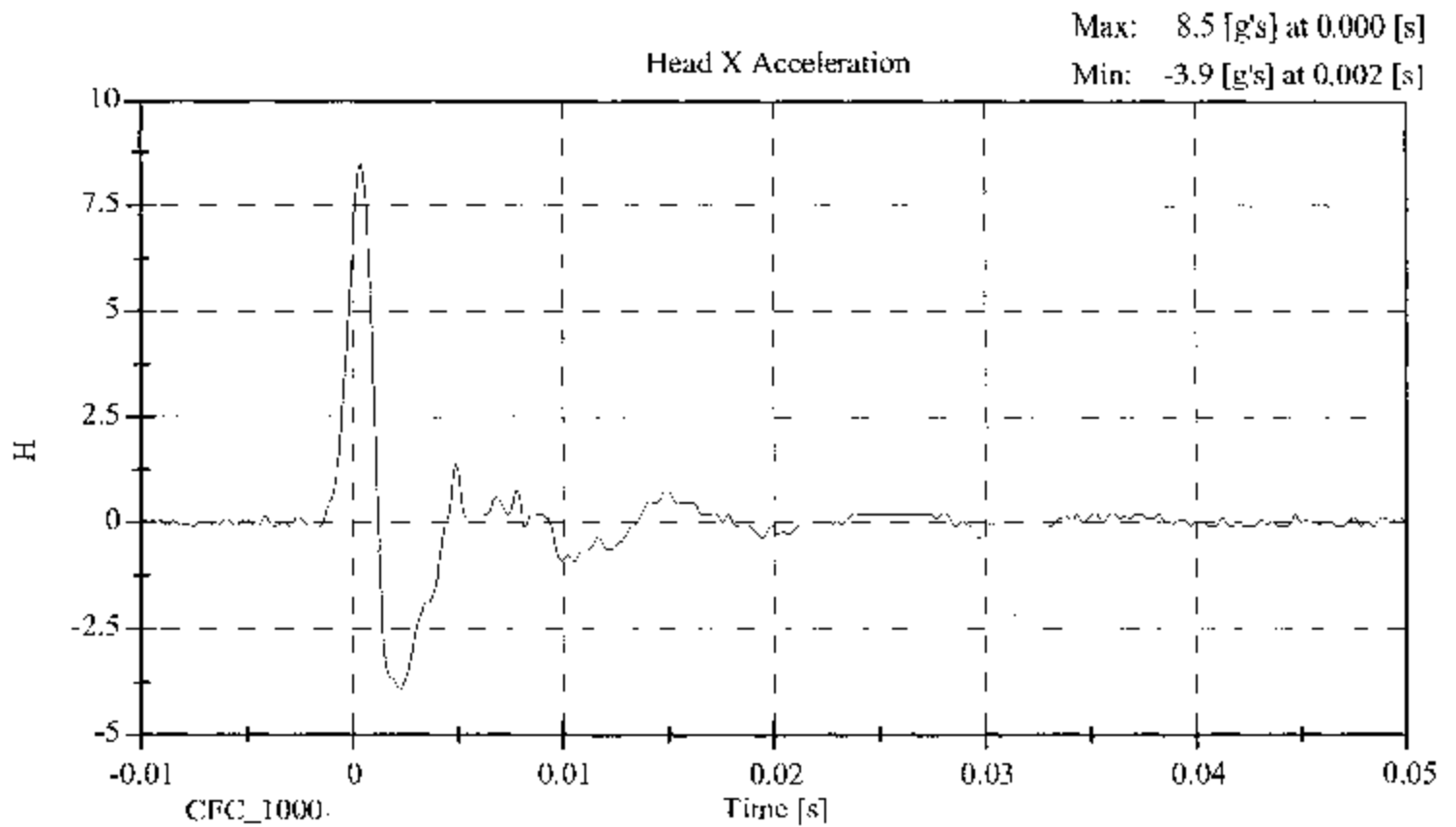
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 4
Date: April 9, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 – 22.2	21.7
RELATIVE HUMIDITY (%)	10 – 70	35.00
PEAK RESULTANT ACCELERATION (Gs)	120 – 150	131.57
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	8.49
CURVE PERCENT NONMODAL (%)	< 15	3.35

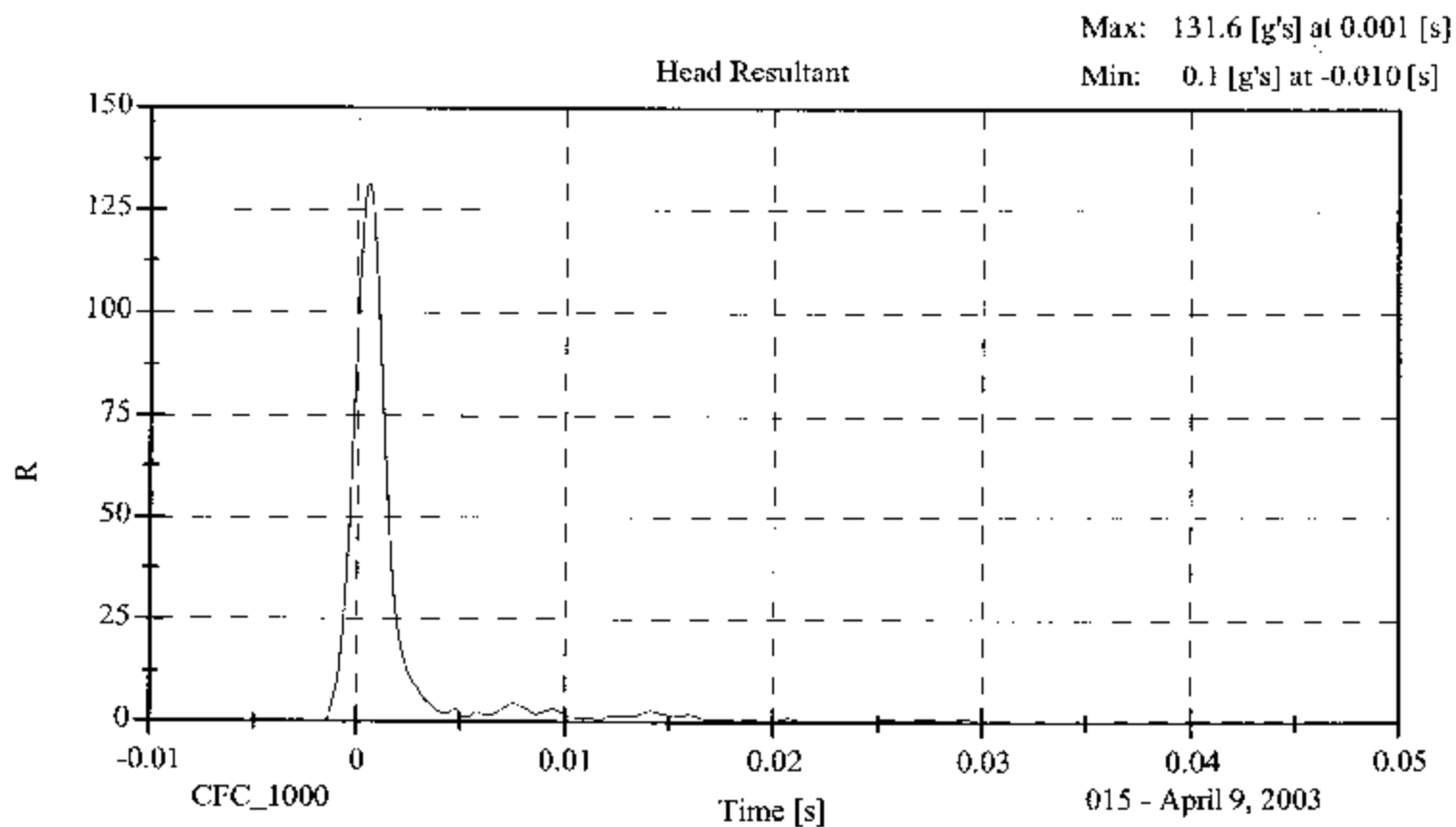
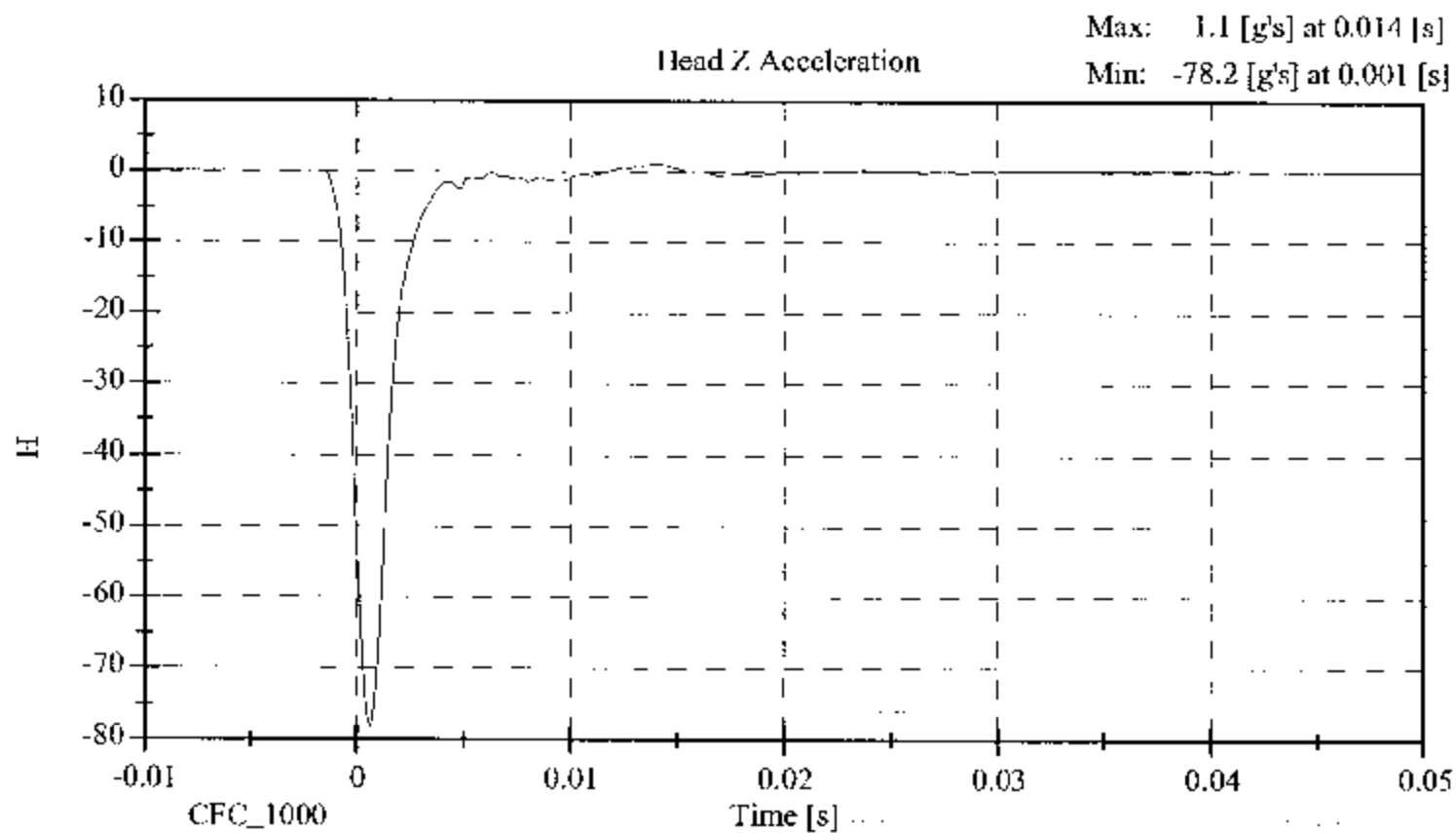
REMARKS: None

Head Drop



015 - April 9, 2003

Head Drop



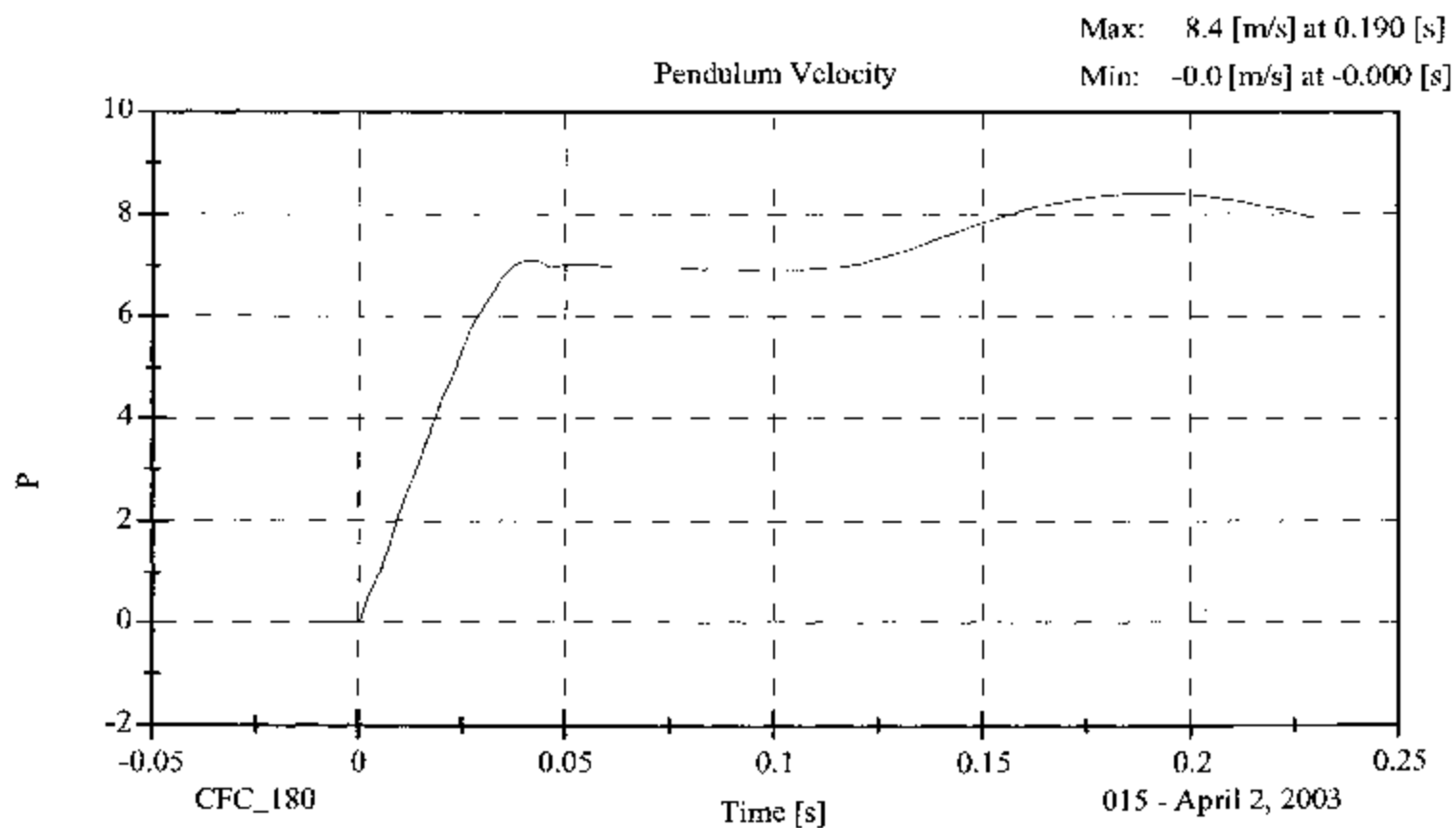
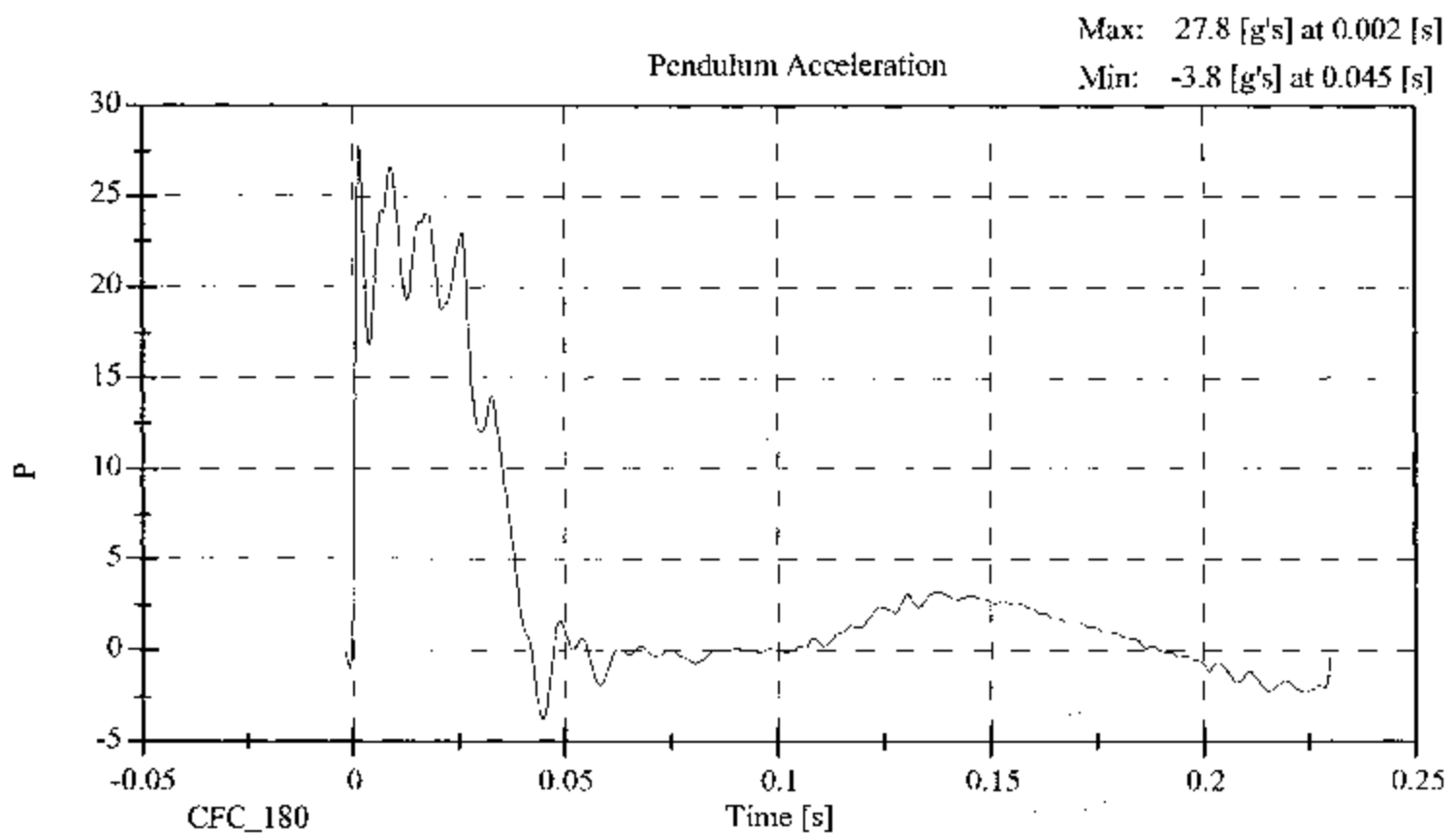
**LATERAL NECK BENDING TEST
PRE-TEST**
(Test not required for SID certification)

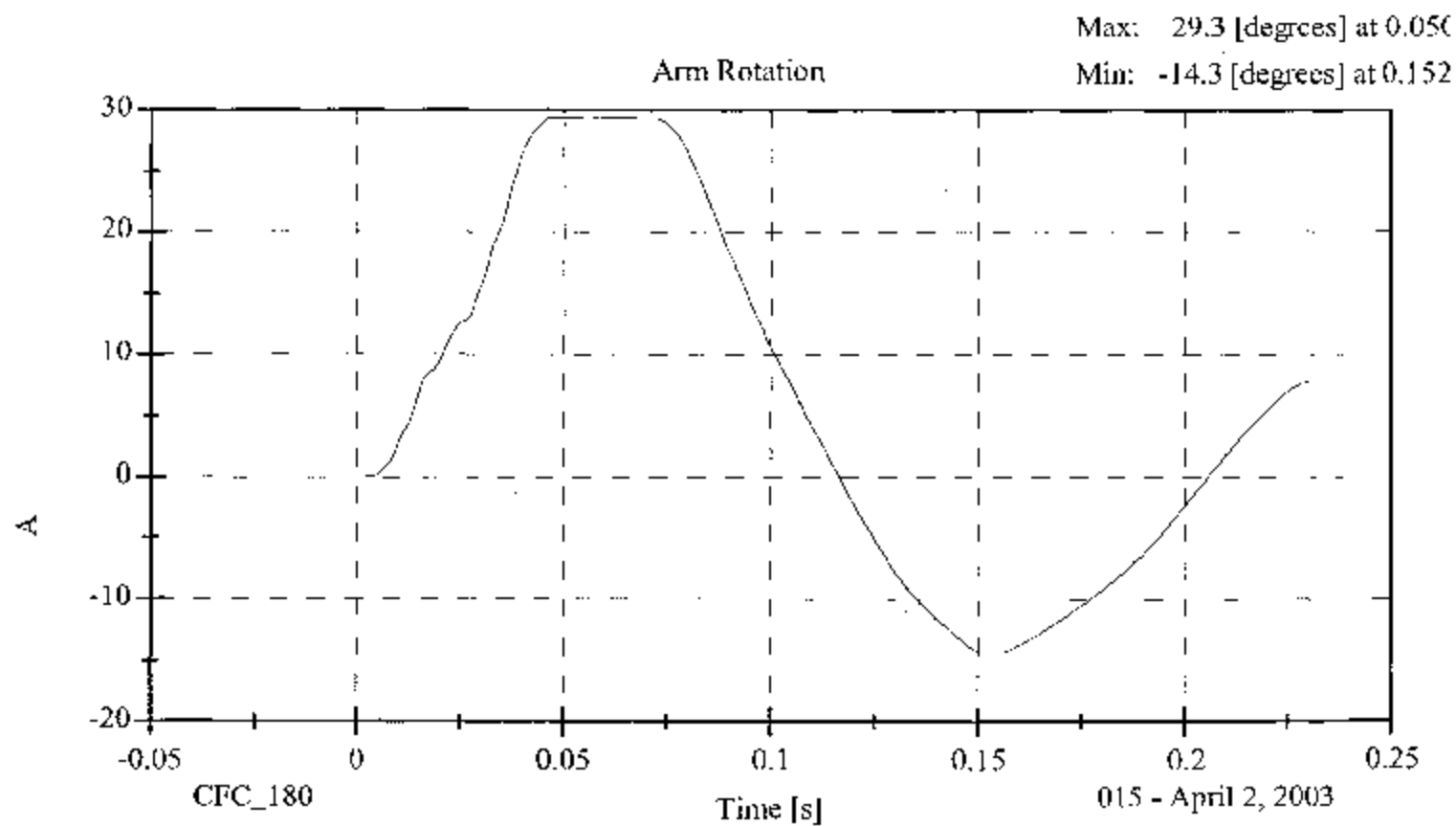
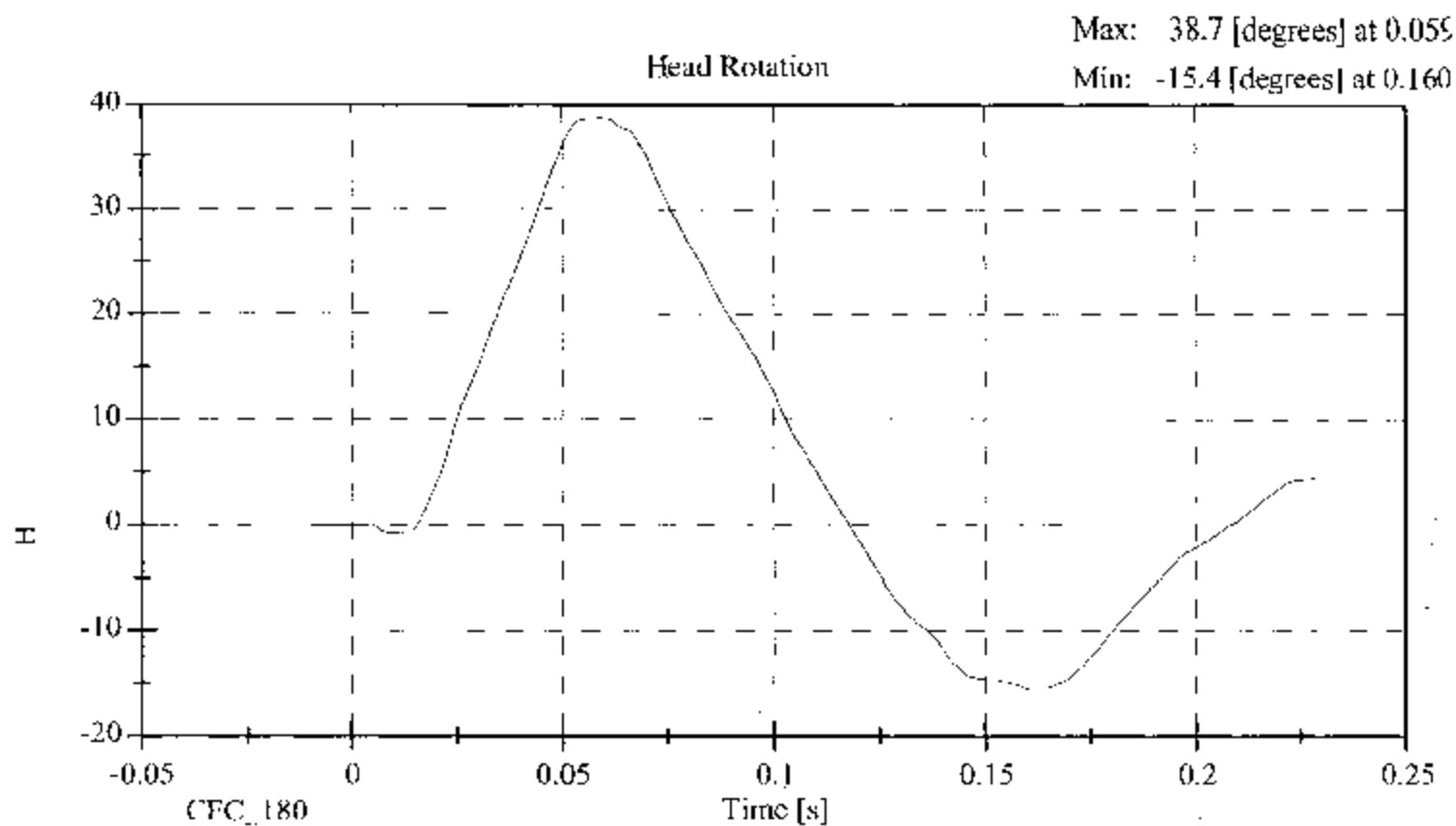
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 4
Date: April 2 2003 Laboratory Technician: B. Swiecicki

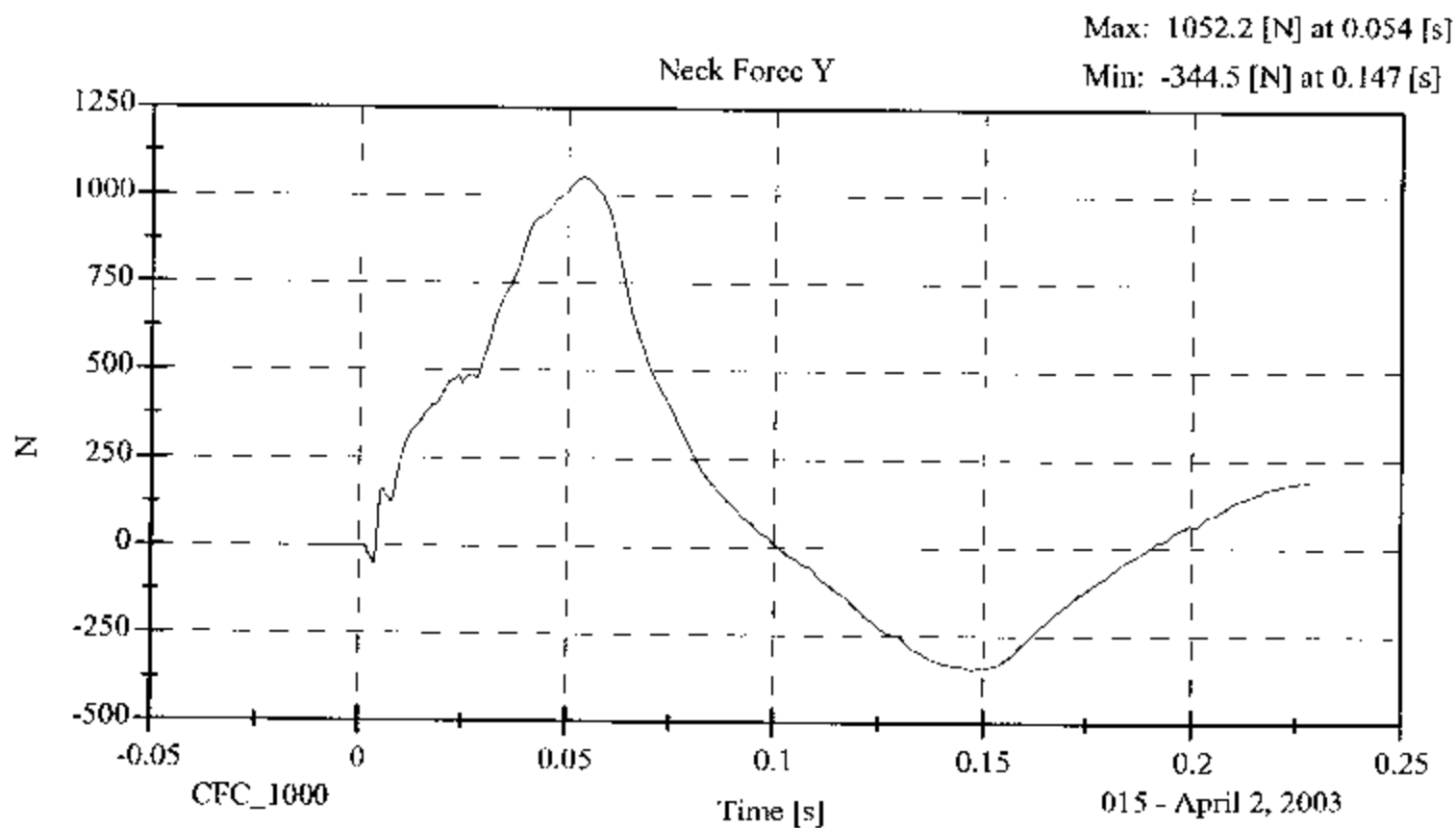
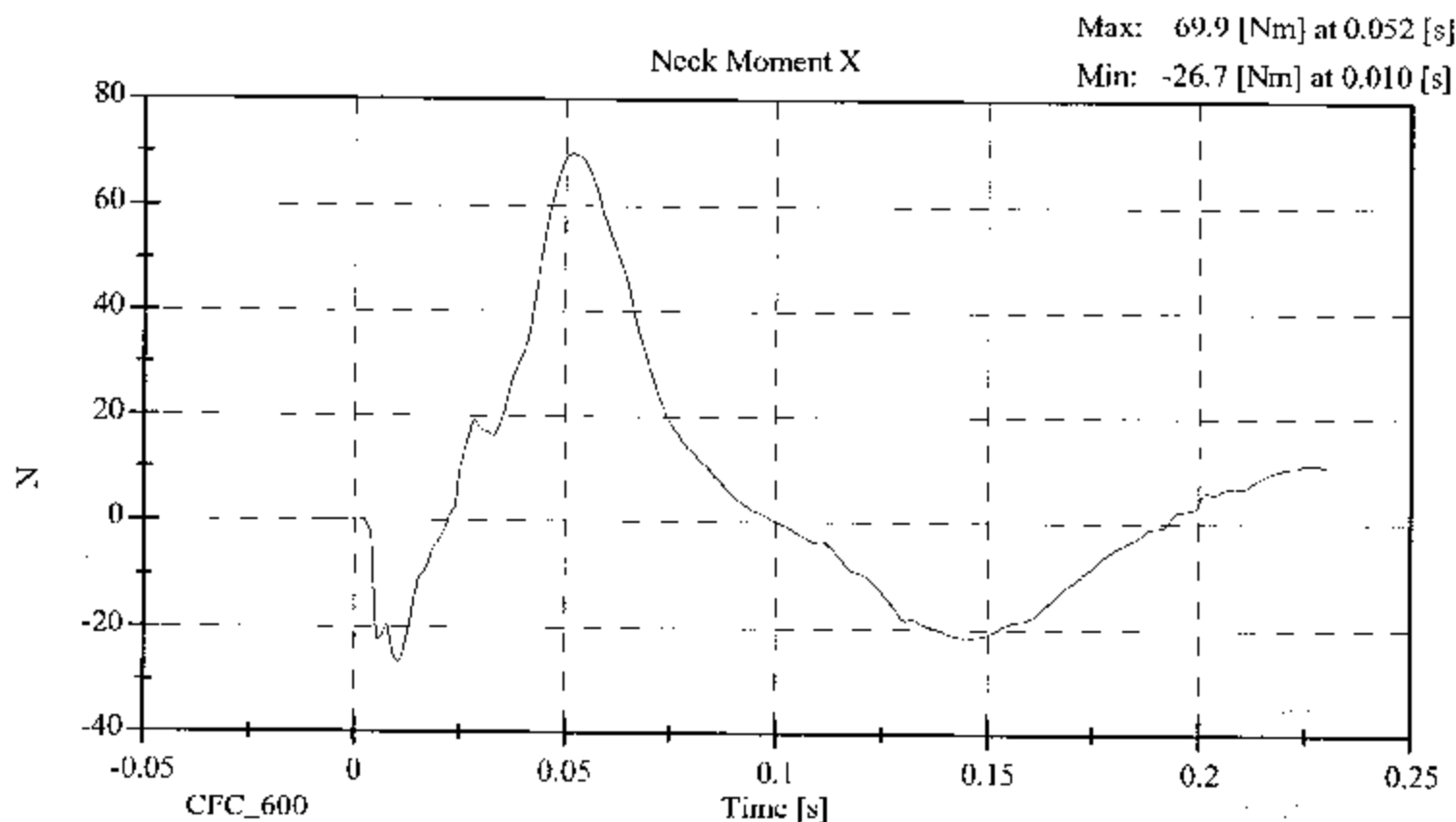
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	36.00
IMPACT VELOCITY (m/s)	6.89 - 7.13	7.02
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.17
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.35
DELTA V @ 30 ms (m/s)	5.73 - 7.01	6.17
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.10
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	67.94
ROT. ANGLE TIME to ZERO (ms)	50 - 70	58.20
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	88.34
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	48.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	7.10

REMARKS: None

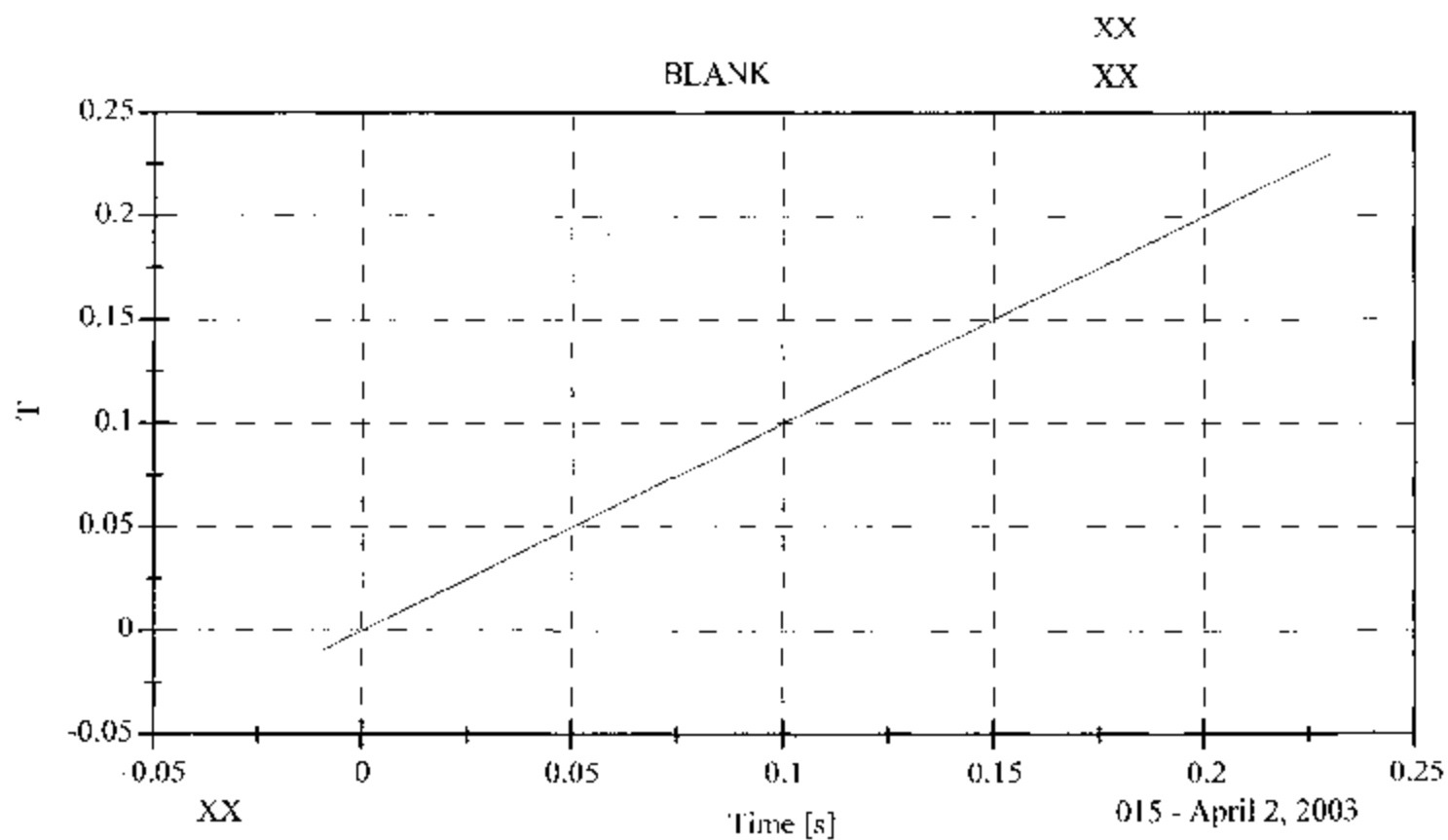
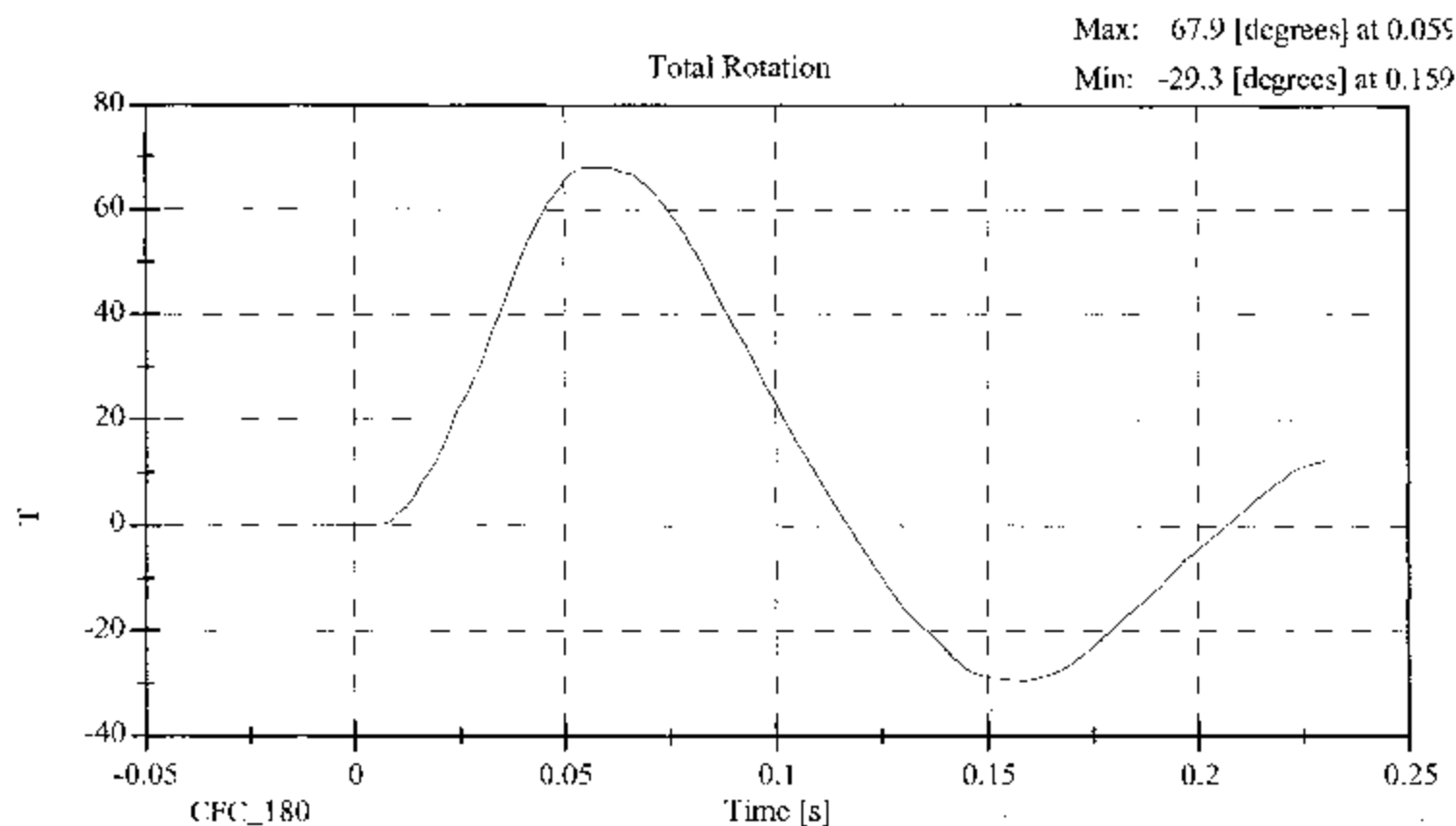




Neck Test



Neck Test



**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015

Sequential Test Number: 4

Date: April 4, 2003

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.00
FORCE @ 13 mm (N)	104 - 162	115.7
FORCE @ 19 mm (N)	163 - 221	177.9
FORCE @ 25 mm (N)	222 - 280	249.1
FORCE @ 33 mm (N)	325 - 391	364.8

REMARKS: None

Dummy S/N -- 015

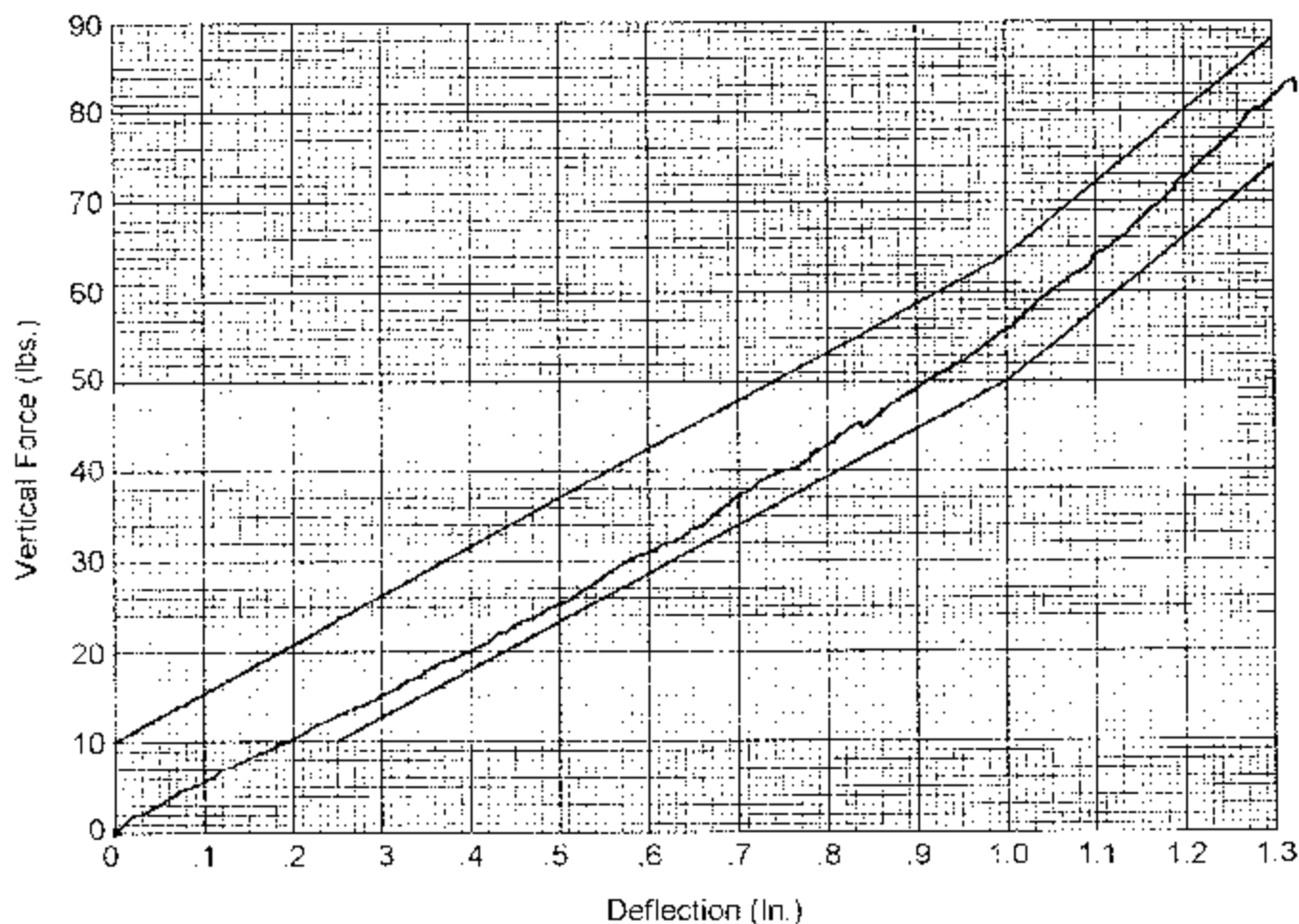
W/A

Date 4-4-83

Performed By J.S.

Temp. 36°

Humidity 31%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

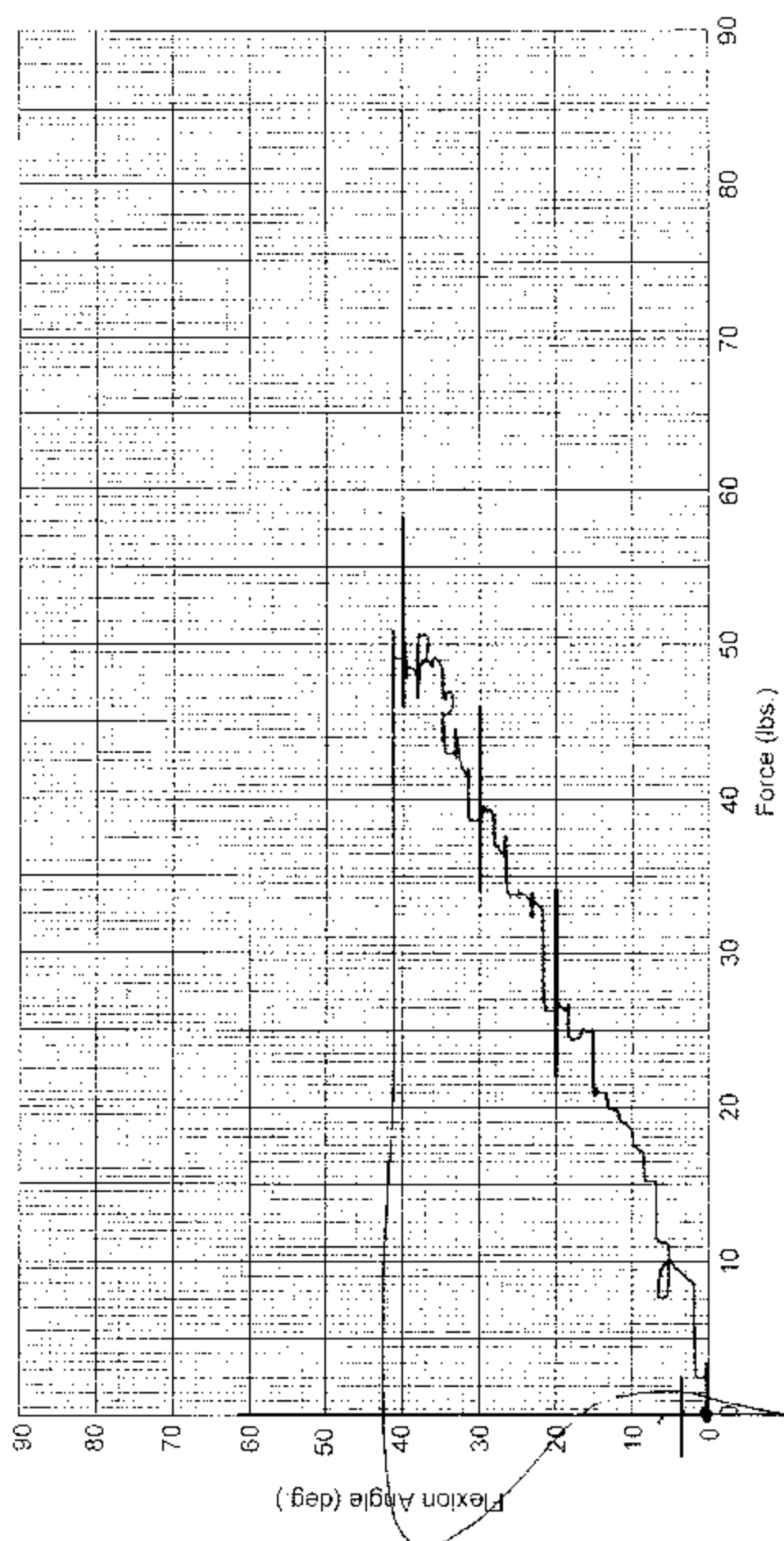
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	171.3
FORCE @ 40° (N)	204.6 - 258	219.1
RETURN ANGLE	12° max.	4.5°

REMARKS: None

Dummy S/N *C/S*
 WIA
 Date *4.4.03*
 Performed By *[Signature]*
 Temp. *70°*
 Humidity *31%*



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 4
 Date: April 4, 2003 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	

REMARKS: None

CALIBRATION TEST RESULTS

PRE-TEST

SID 113 NO.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

4

Date: April 4, 2003

Laboratory Technician:

B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016	Sequential Test Number: 4
Date: April 4, 2003	Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 4
Date: February 3, 2003 Laboratory Technician: B. Swiericki

DAMPER IDENTIFICATION: _____

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	29.00
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	951.92
	DISPLACEMENT (mm)	30 - 35	34.41
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1877.47
	DISPLACEMENT (mm)	32 - 37	36.94
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	4426.58
	DISPLACEMENT (mm)	33 - 40	39.14

DAMPER SETTING: 5

REMARKS: None

016 Shock Low at 3.05 m/s

Low Part 572F Shock Absorber Impact

Calibration Date: 02-03-03

Serial No: 016

Work File: 016SL 2-03-03

TEST RESULTS

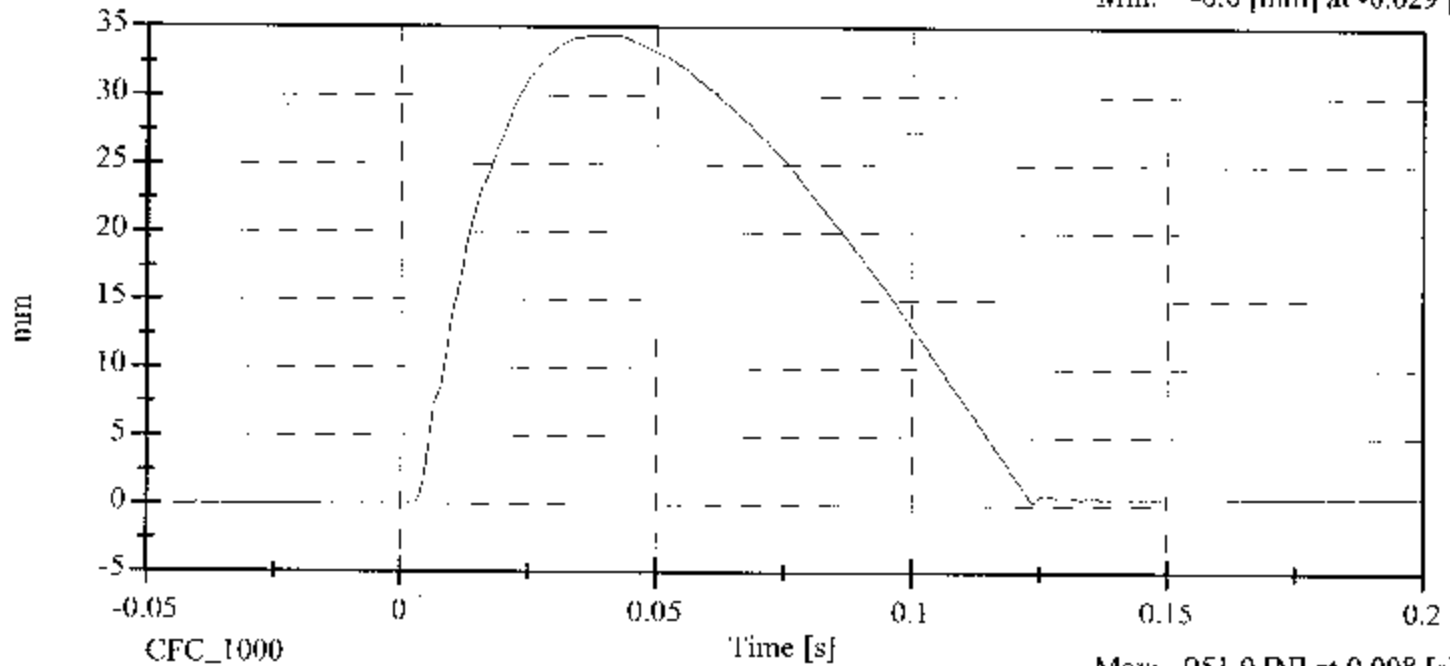
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	30.00-35.00 mm	34.41 mm	Passed
Maximum Force:	836.00-1125.00 N	951.92 N	Passed

016 Shock Low

Displacement vs. Time

Max: 34.4 [mm] at 0.037 [s]

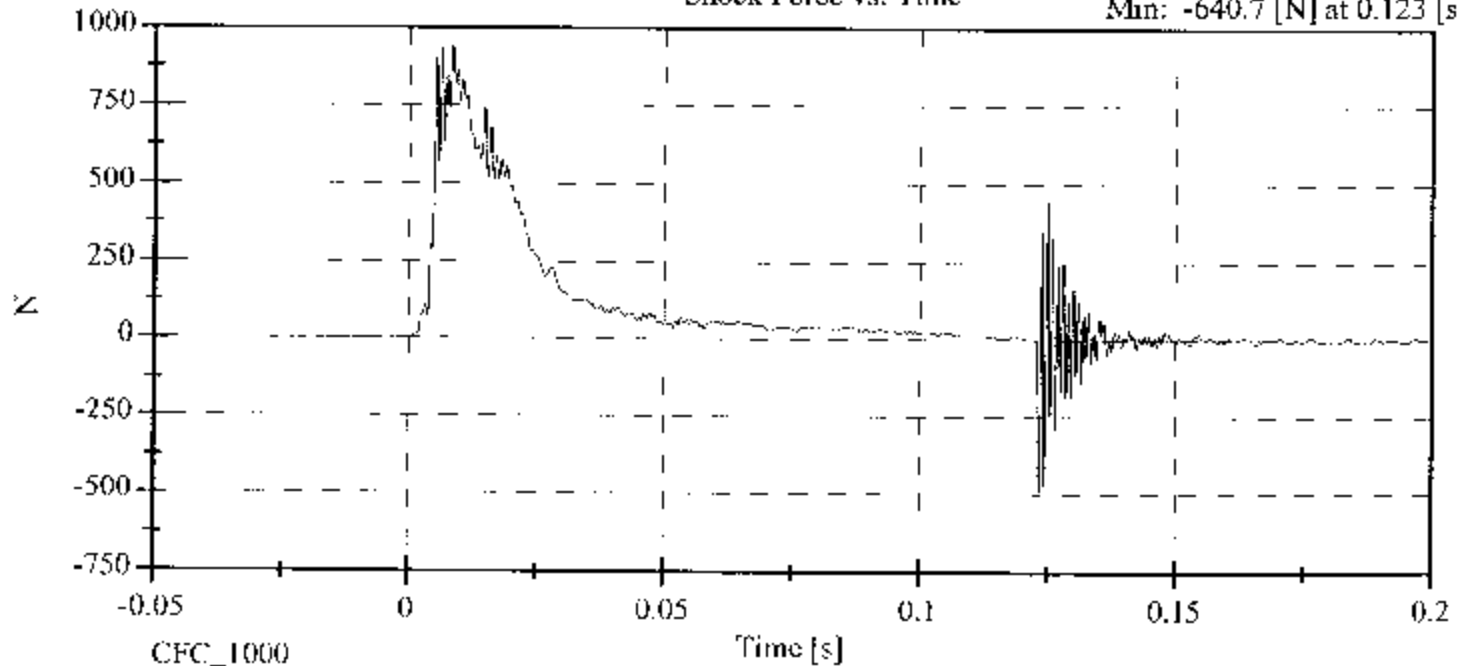
Min: -0.0 [mm] at -0.029 [s]



Shock Force vs. Time

Max: 951.9 [N] at 0.008 [s]

Min: -640.7 [N] at 0.123 [s]



016 Shock Medium at 4.27 m/s

Medium Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No: 016

Work File:

016SM 2-03-03

TEST RESULTS

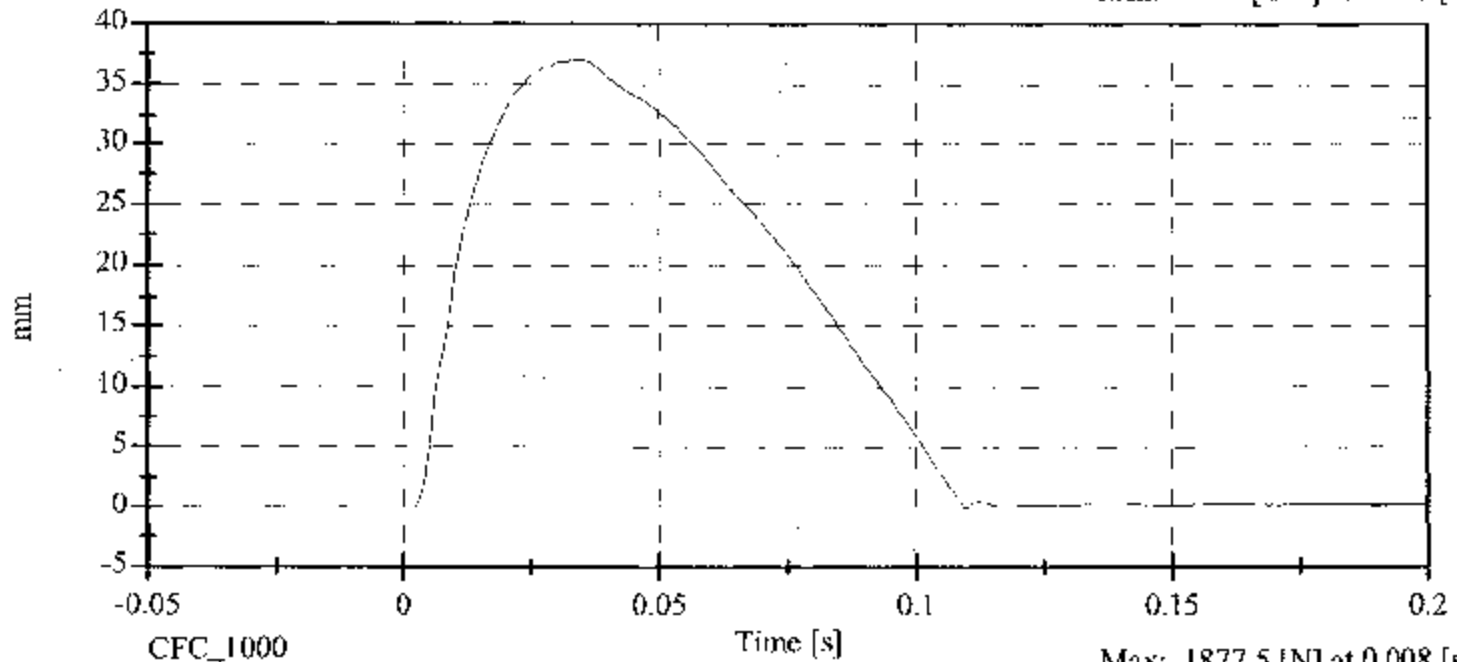
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	32.00-37.00 mm	36.94 mm	Passed
Maximum Force:	1730.00-2099.00 N	1877.47 N	Passed

016 Shock Medium

Displacement vs. Time

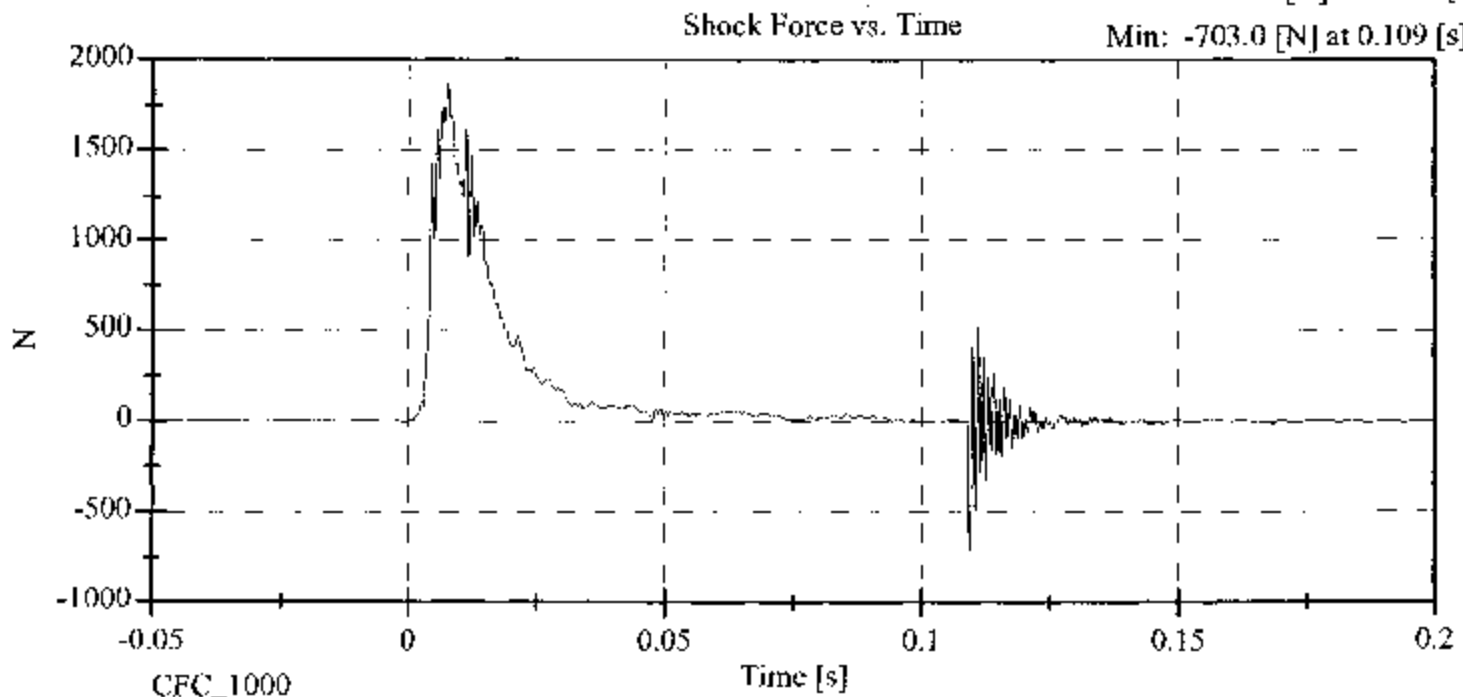
Max: 36.9 [mm] at 0.033 [s]

Min: -0.1 [mm] at 0.110 [s]



Max: 1877.5 [N] at 0.008 [s]

Min: -703.0 [N] at 0.109 [s]



016 Shock High at 6.10 m/s

High Part 572F Shock Absorber Impact

Calibration Date:

02-03-03

Serial No:

016

Work File:

016SH 2-03-03

TEST RESULTS

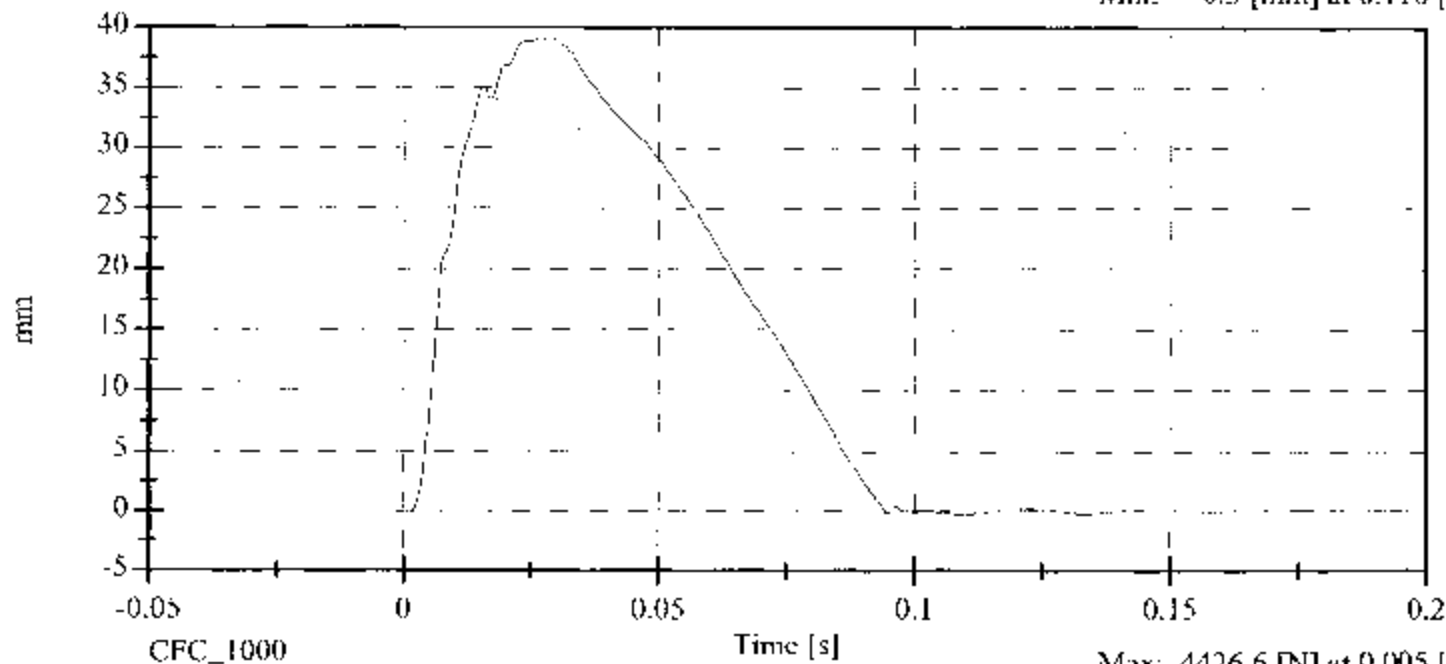
TEST CONDITION	PARAMETERS	RESULTS	STATUS
Lab Temperature:	18.9-25.5 C	21.1 C	Passed
Lab Humidity:	10-70 %	29.00 %	Passed
Displacement:	33.00-40.00 mm	39.14 mm	Passed
Maximum Force:	3741.00-4448.00 N	4426.58 N	Passed

016 Shock High

Displacement vs. Time

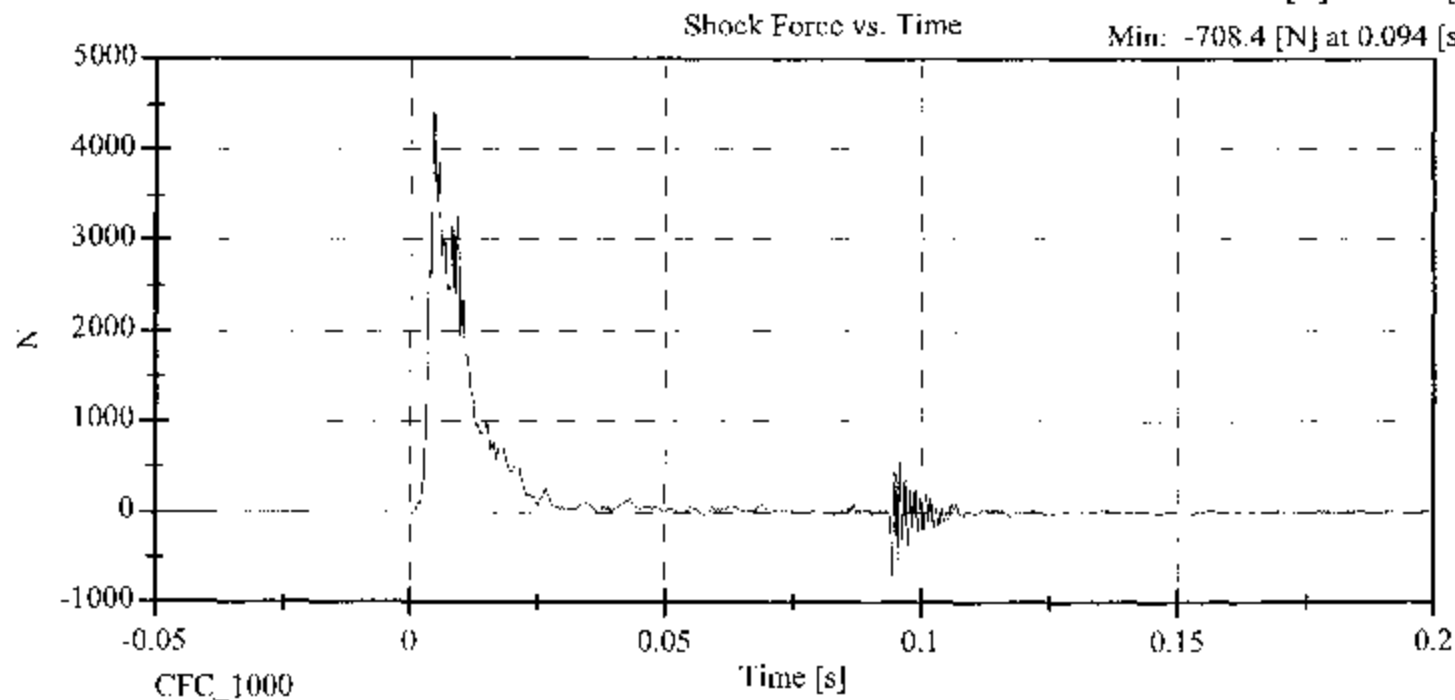
Max: 39.1 [mm] at 0.027 [s]

Min: -0.3 [mm] at 0.110 [s]



Max: 4426.6 [N] at 0.005 [s]

Min: -708.4 [N] at 0.094 [s]



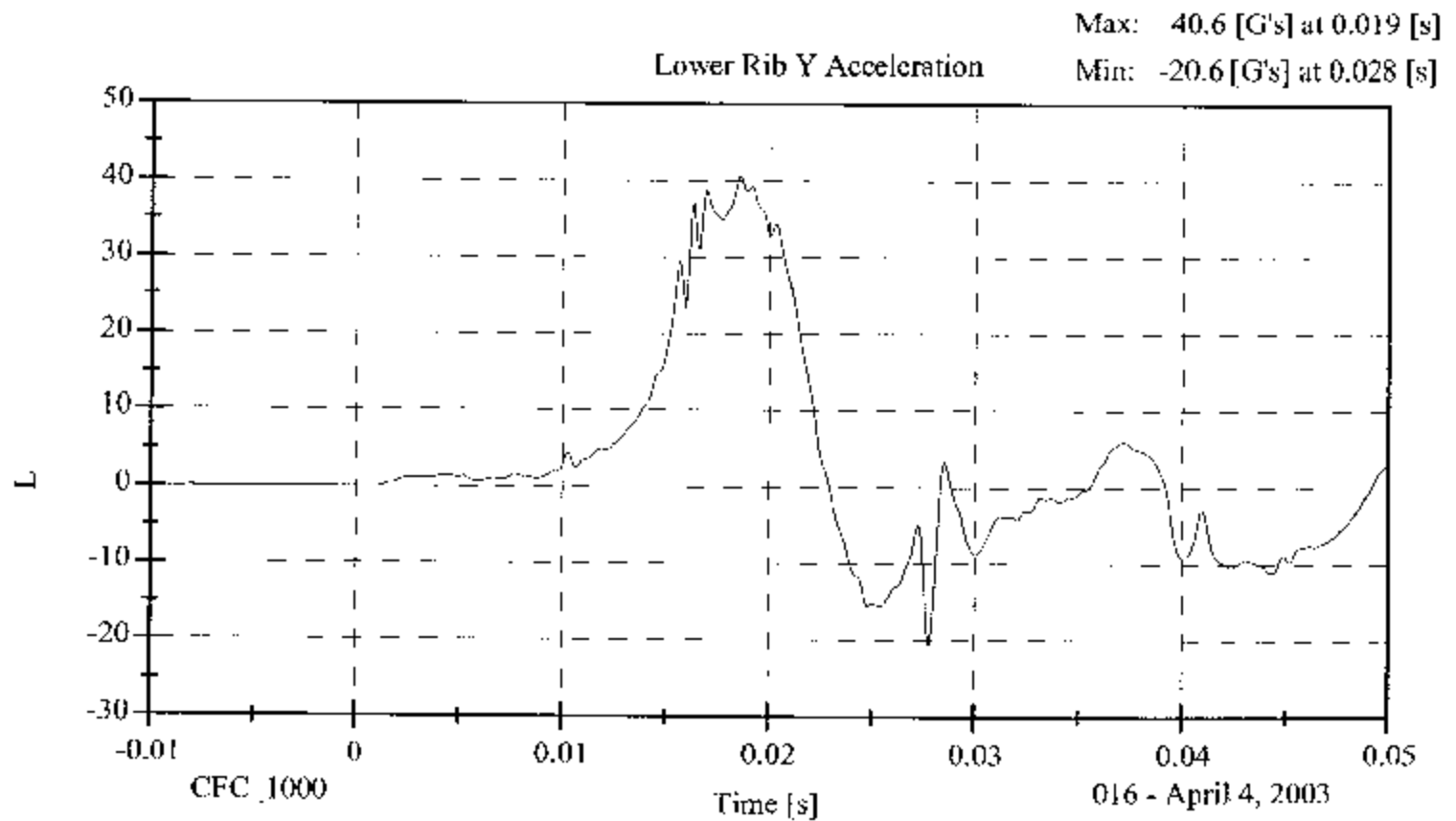
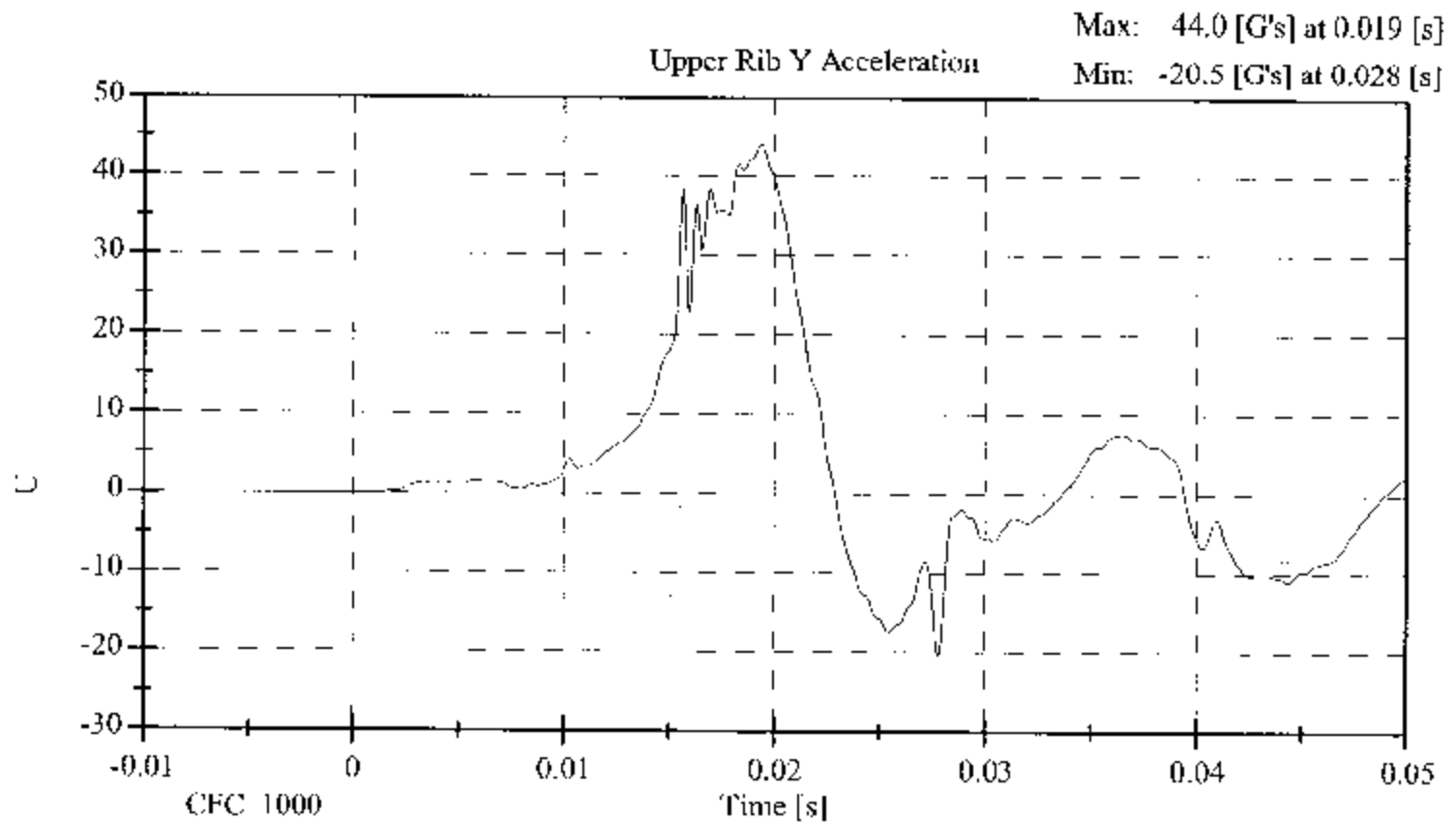
**LATERAL THORAX IMPACT TEST
PRE-TEST**

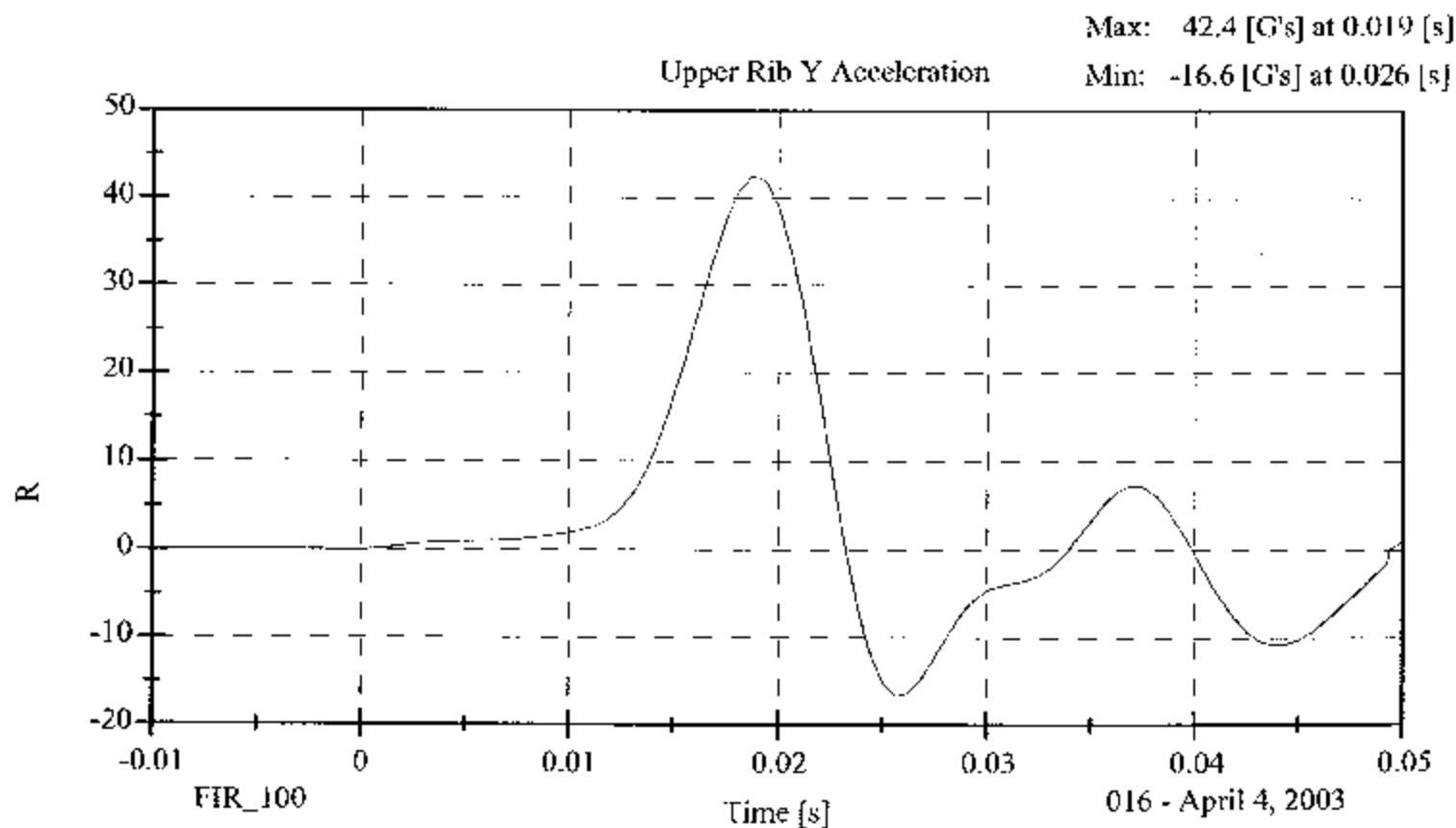
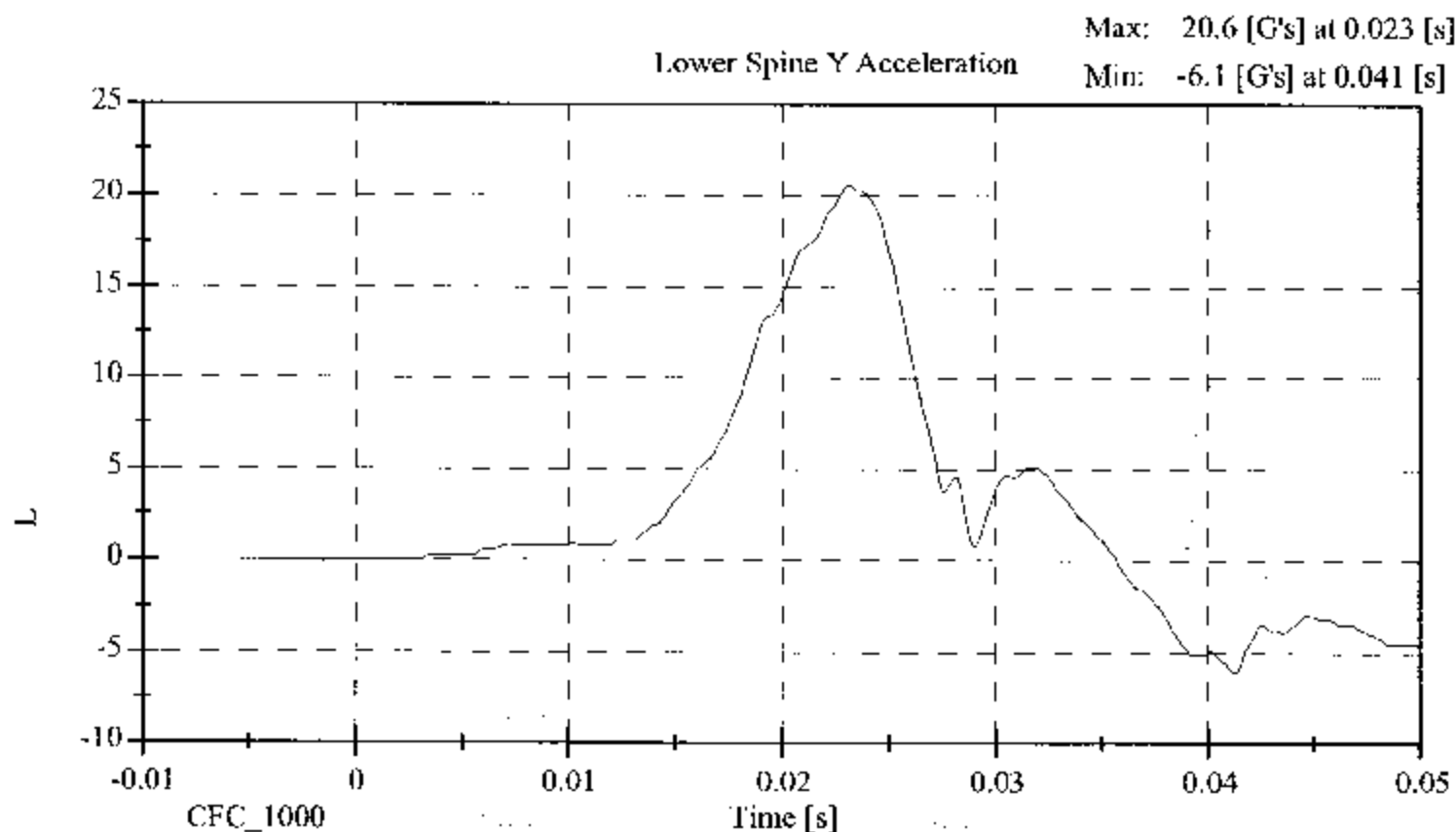
CONFIGURED FOR LEFT SIDE IMPACT

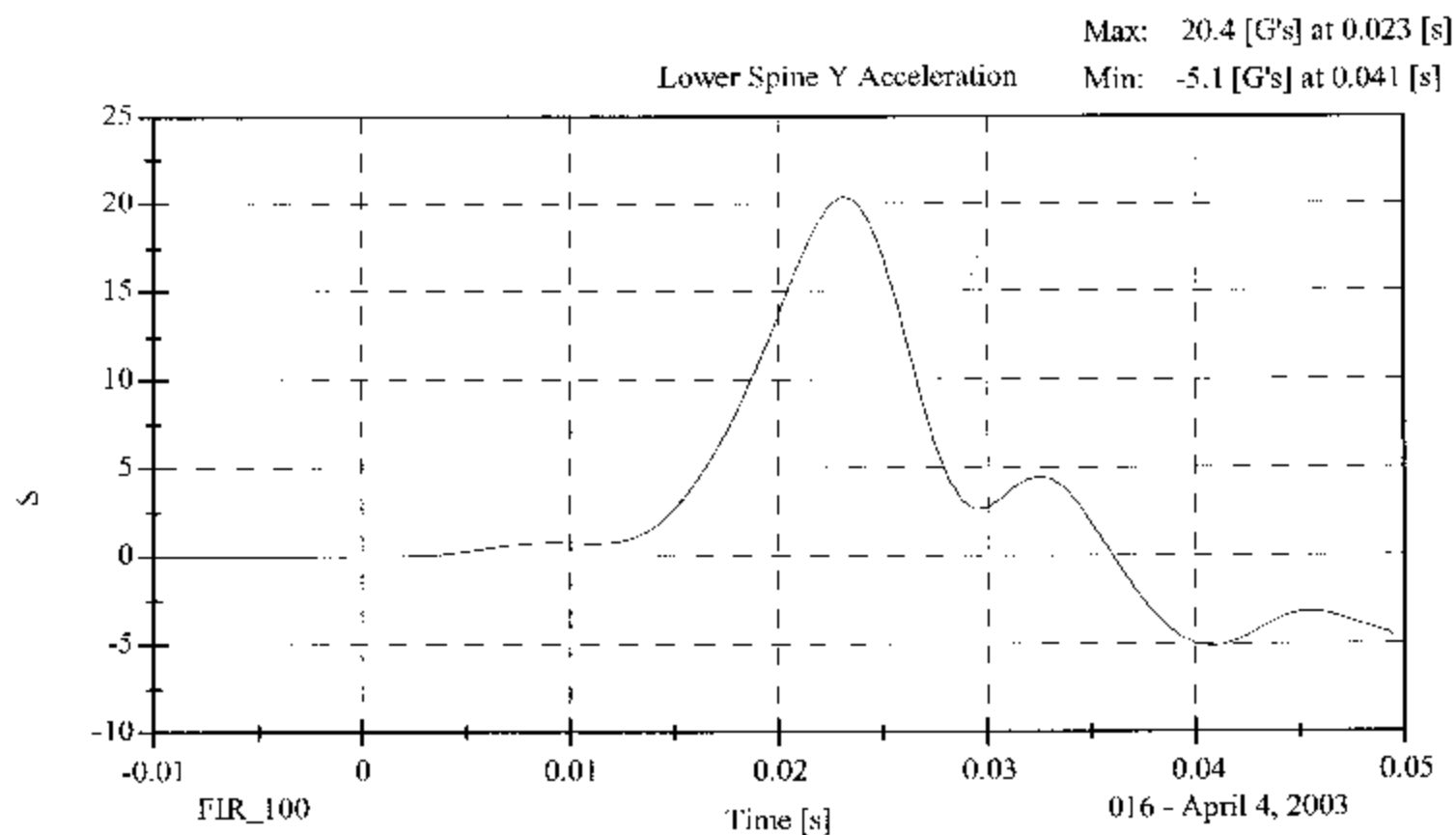
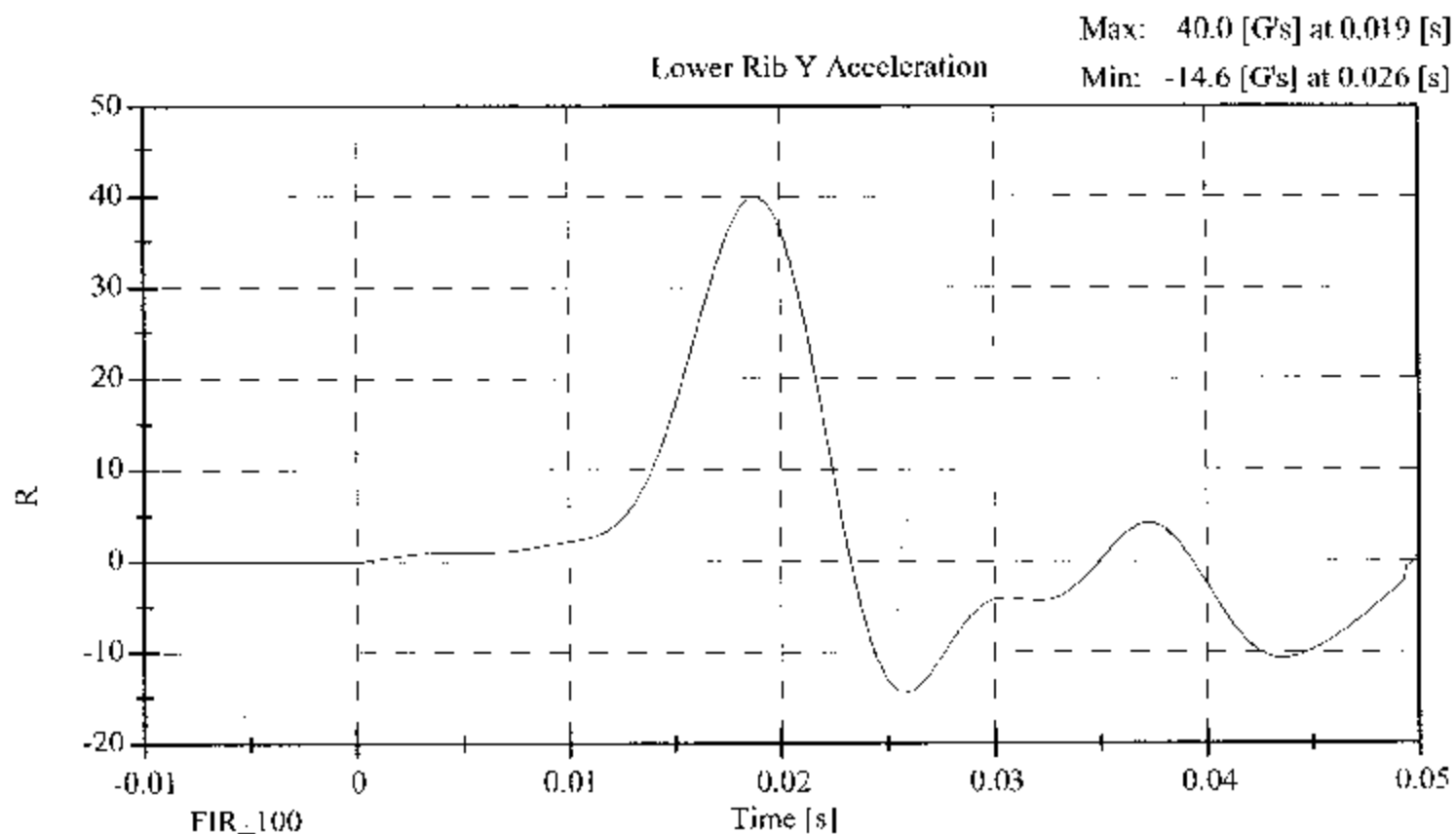
SID H3 Serial No.: 016 Sequential Test Number: 4
Date: April 4, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31.00
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	42.43
LOWER RIB (g's)	37 - 46	40.05
LOWER SPINE (g's)	15 - 22	20.37

REMARKS: None







**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

4

Date: April 4, 2003

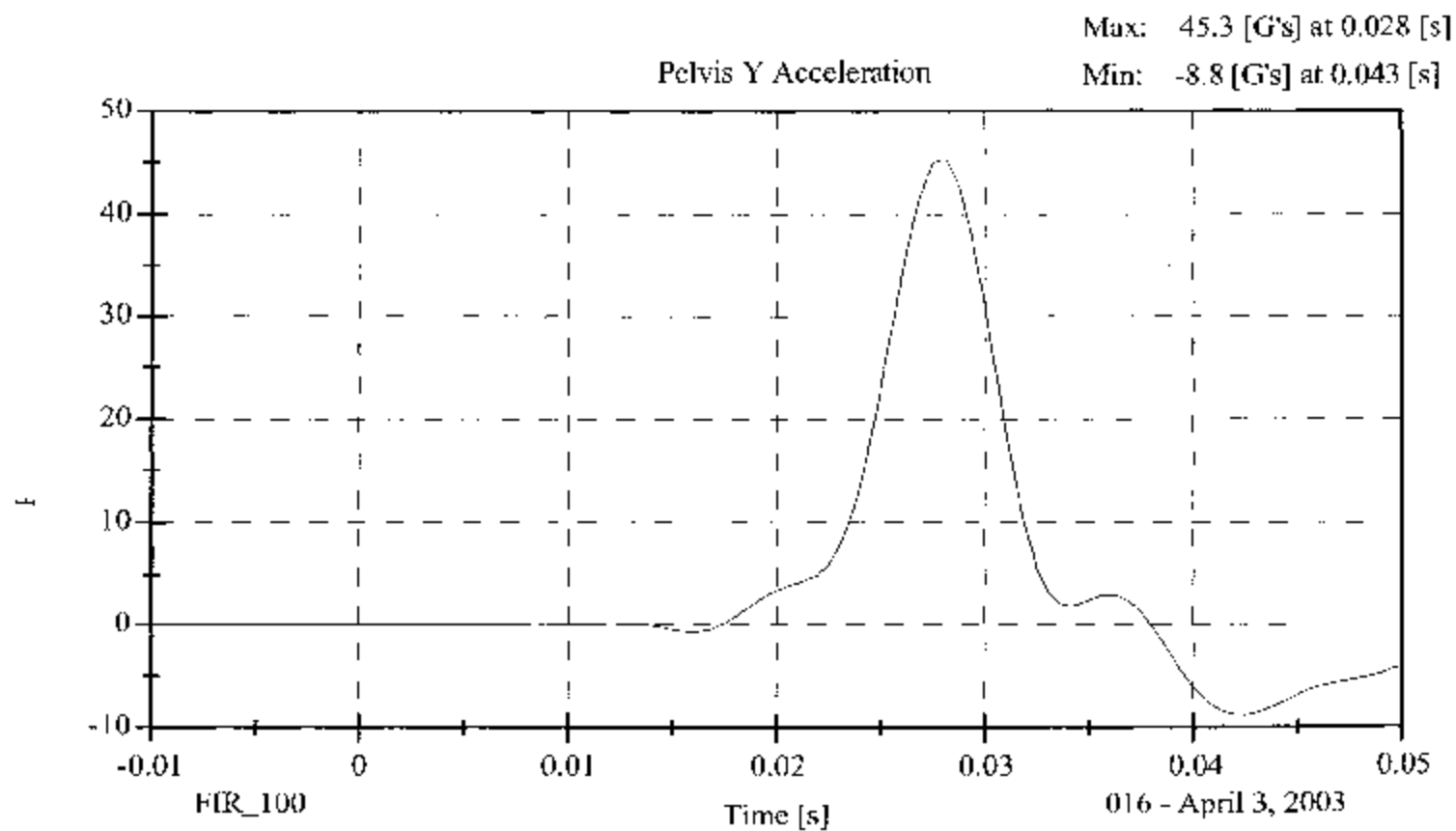
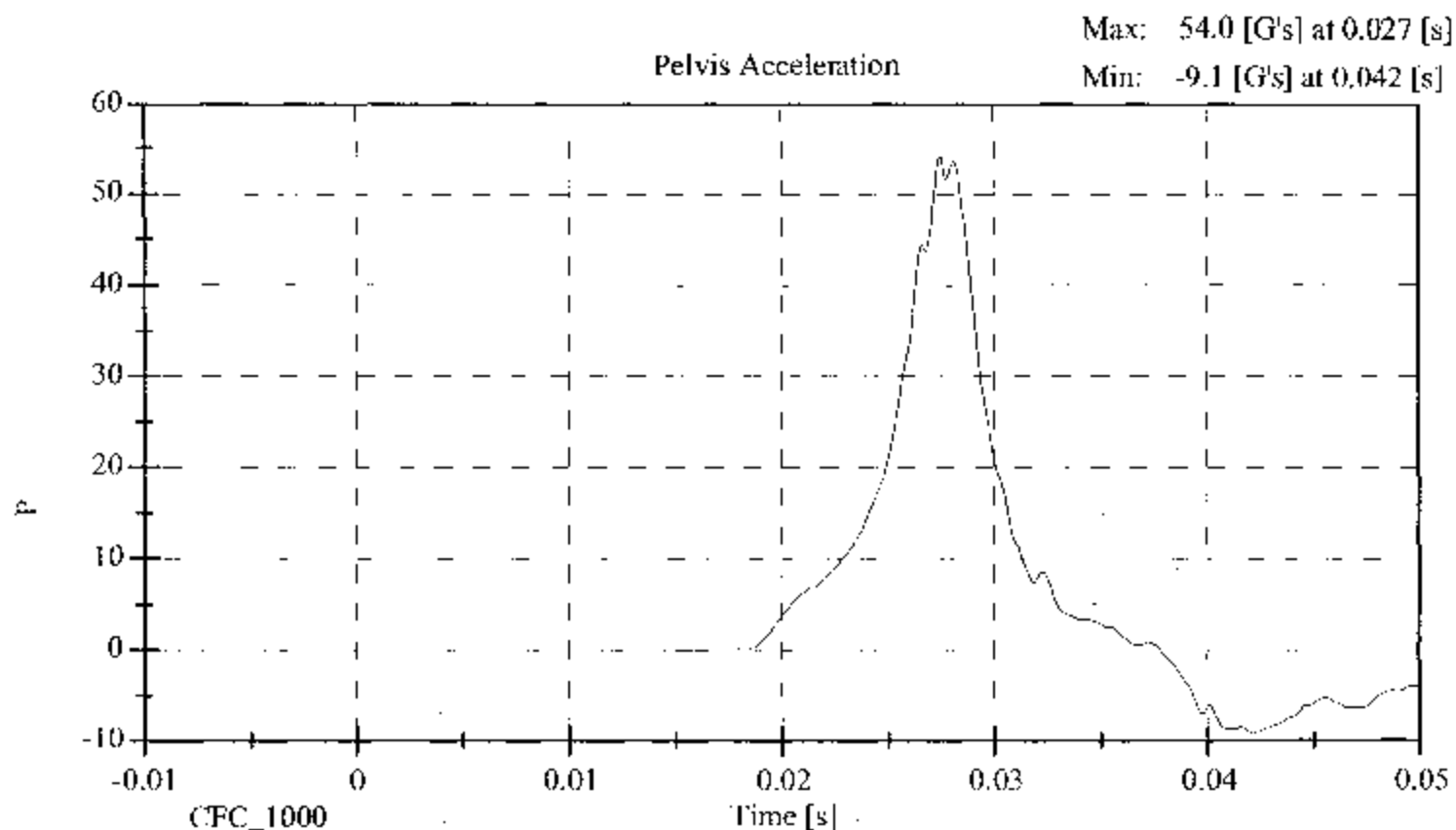
Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	34.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27
PELVIS ACCELERATION (g's)	40 - 60	45.33

REMARKS: None

Pelvis Impact



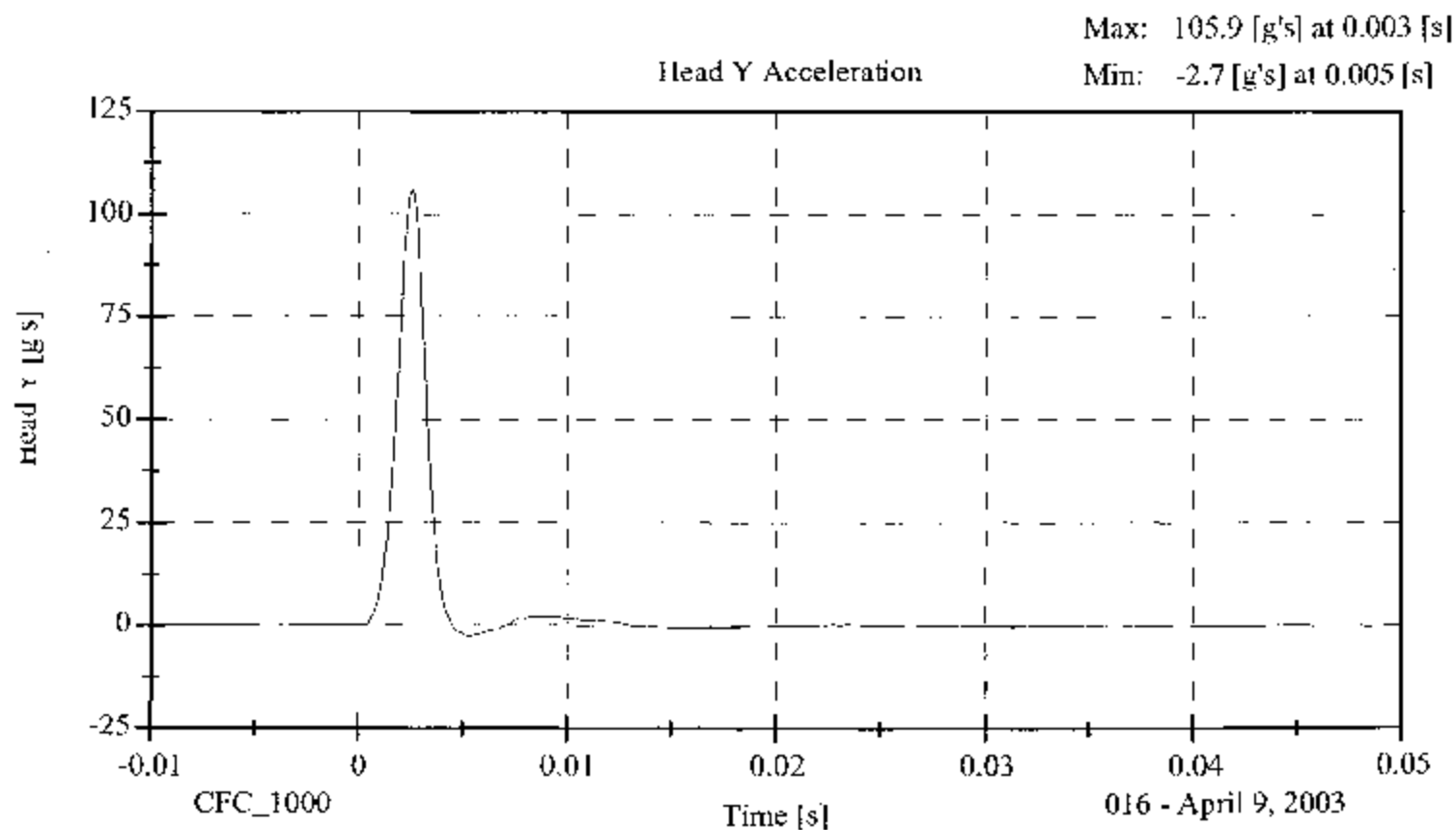
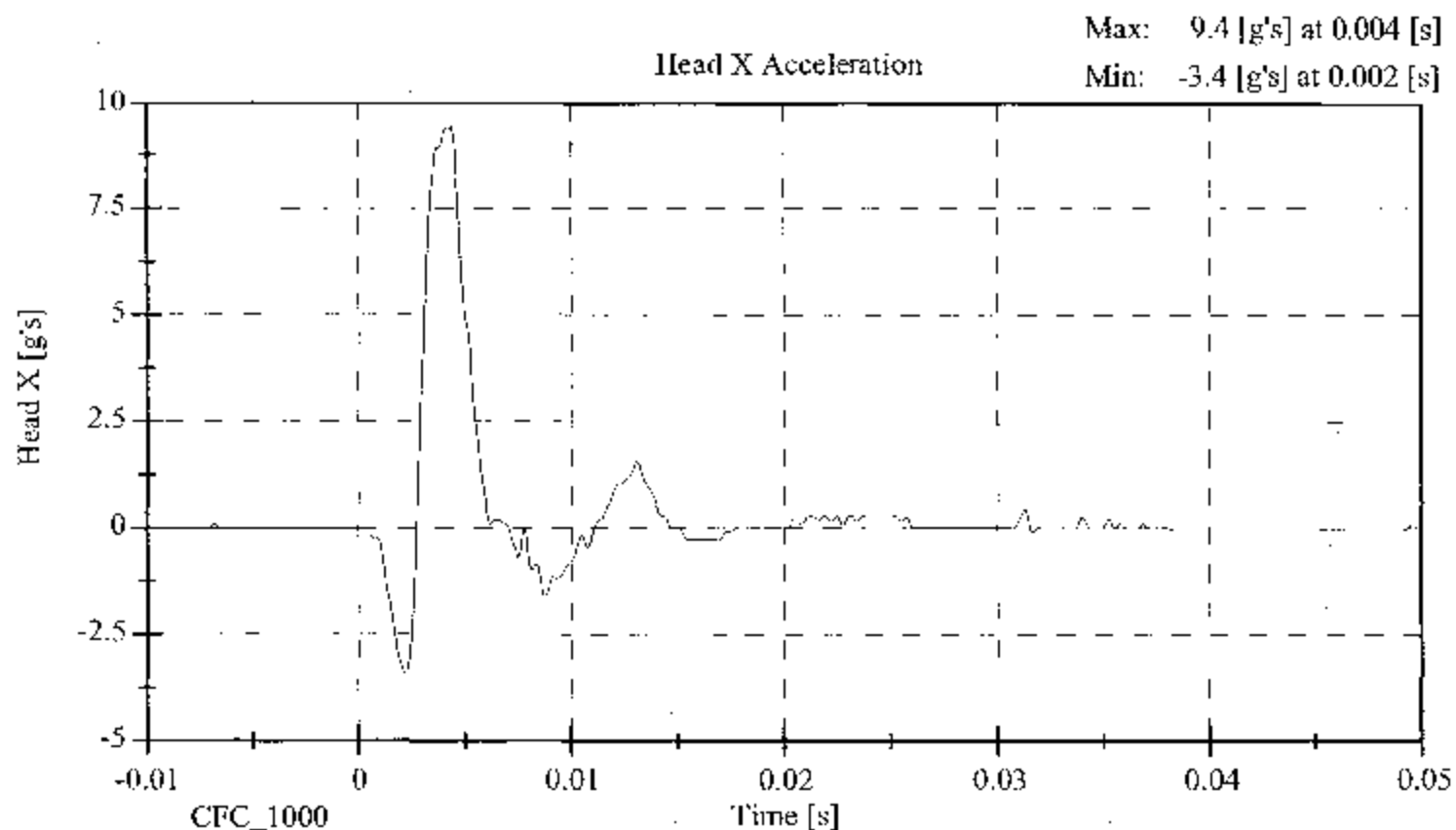
HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 4
Date: April 9, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.7
RELATIVE HUMIDITY (%)	10 - 70	34.00
PEAK RESULTANT ACCELERATION (Gs)	120 - 150	138.7
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	9.42
CURVE PERCENT NONMODAL (%)	< 15	2.25

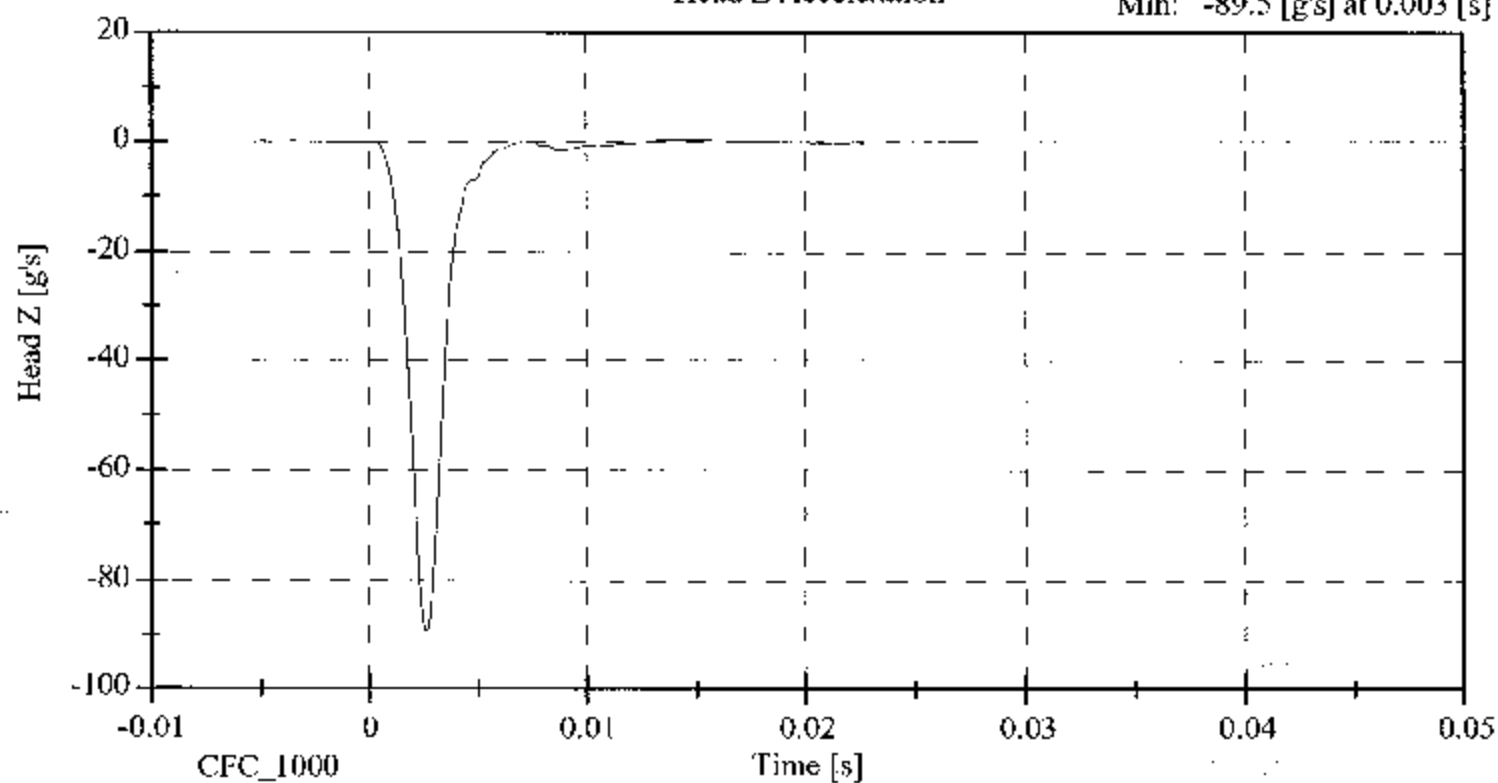
REMARKS: None



Head Z Acceleration

Max: 0.5 [g's] at 0.015 [s]

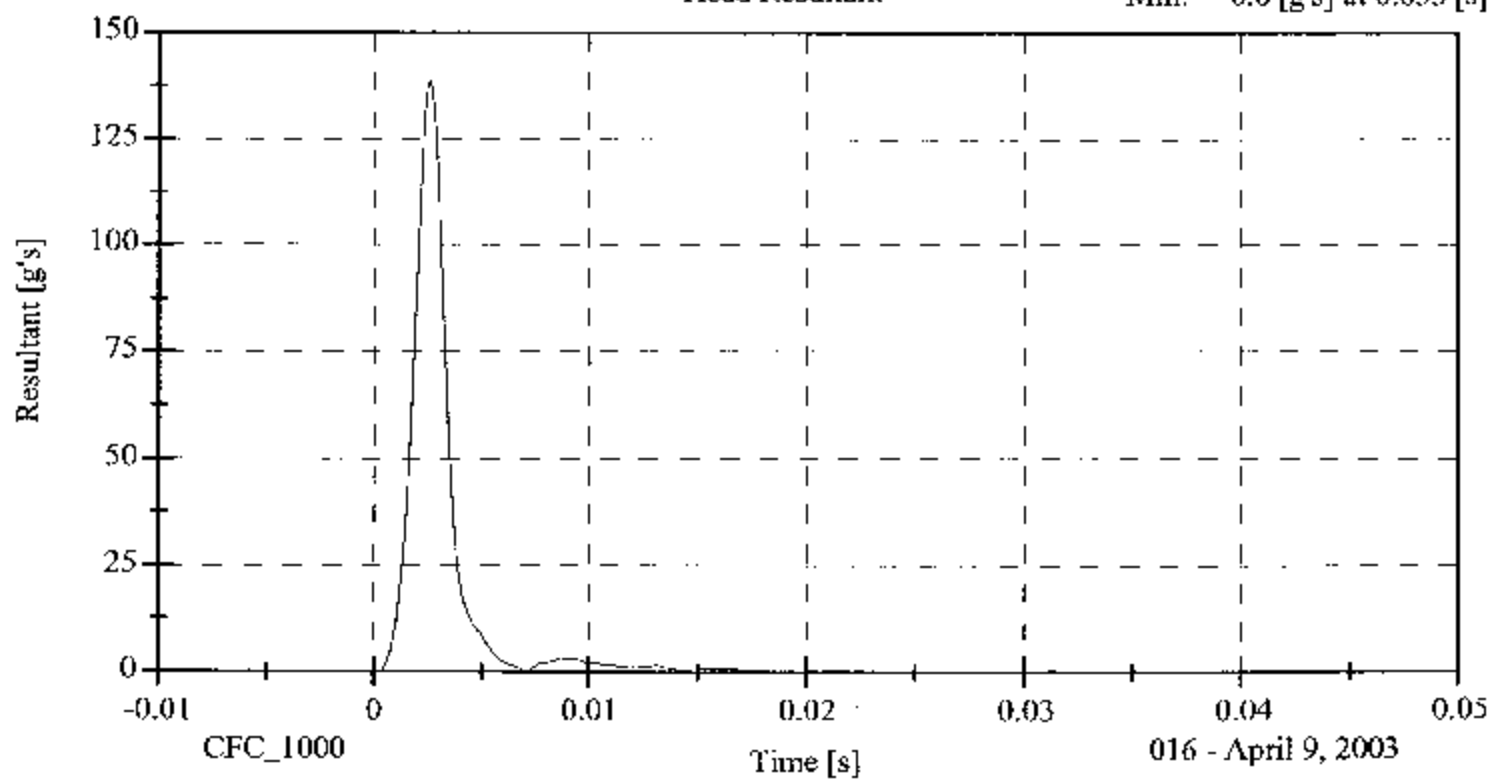
Min: -89.5 [g's] at 0.003 [s]



Head Resultant

Max: 138.7 [g's] at 0.003 [s]

Min: 0.0 [g's] at 0.033 [s]



016 - April 9, 2003

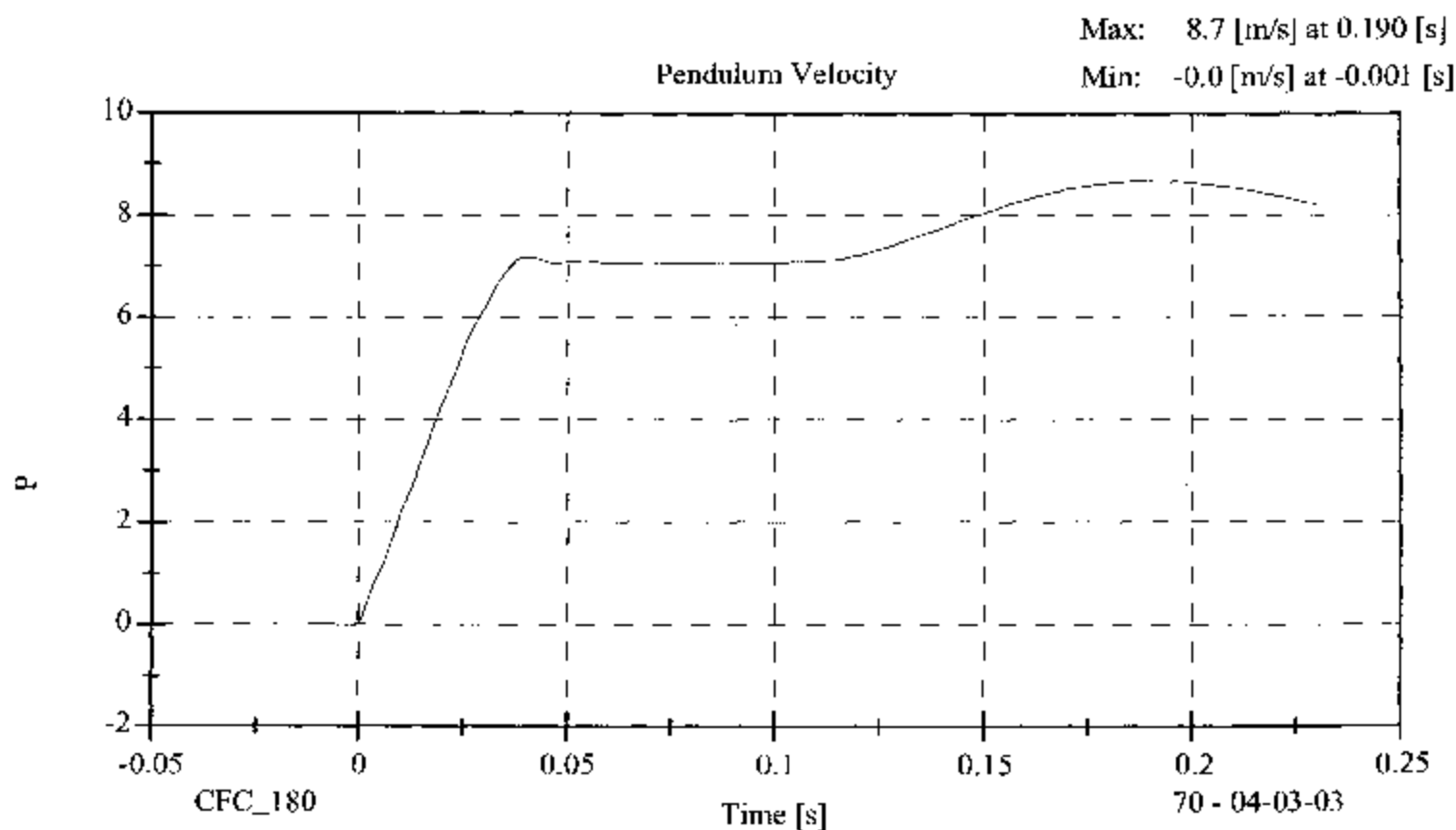
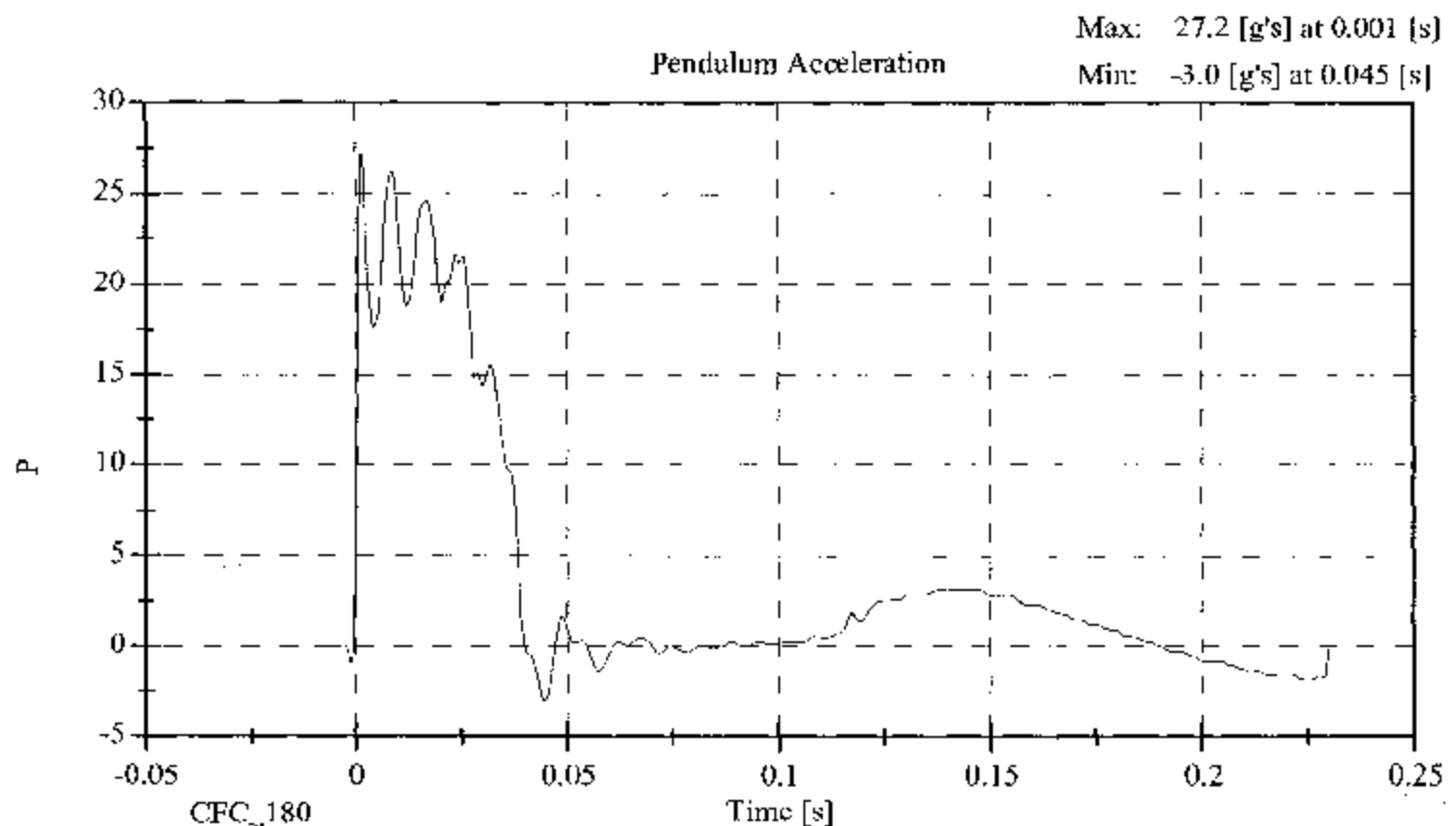
LATERAL NECK BENDING TEST
PRE-TEST
 (Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

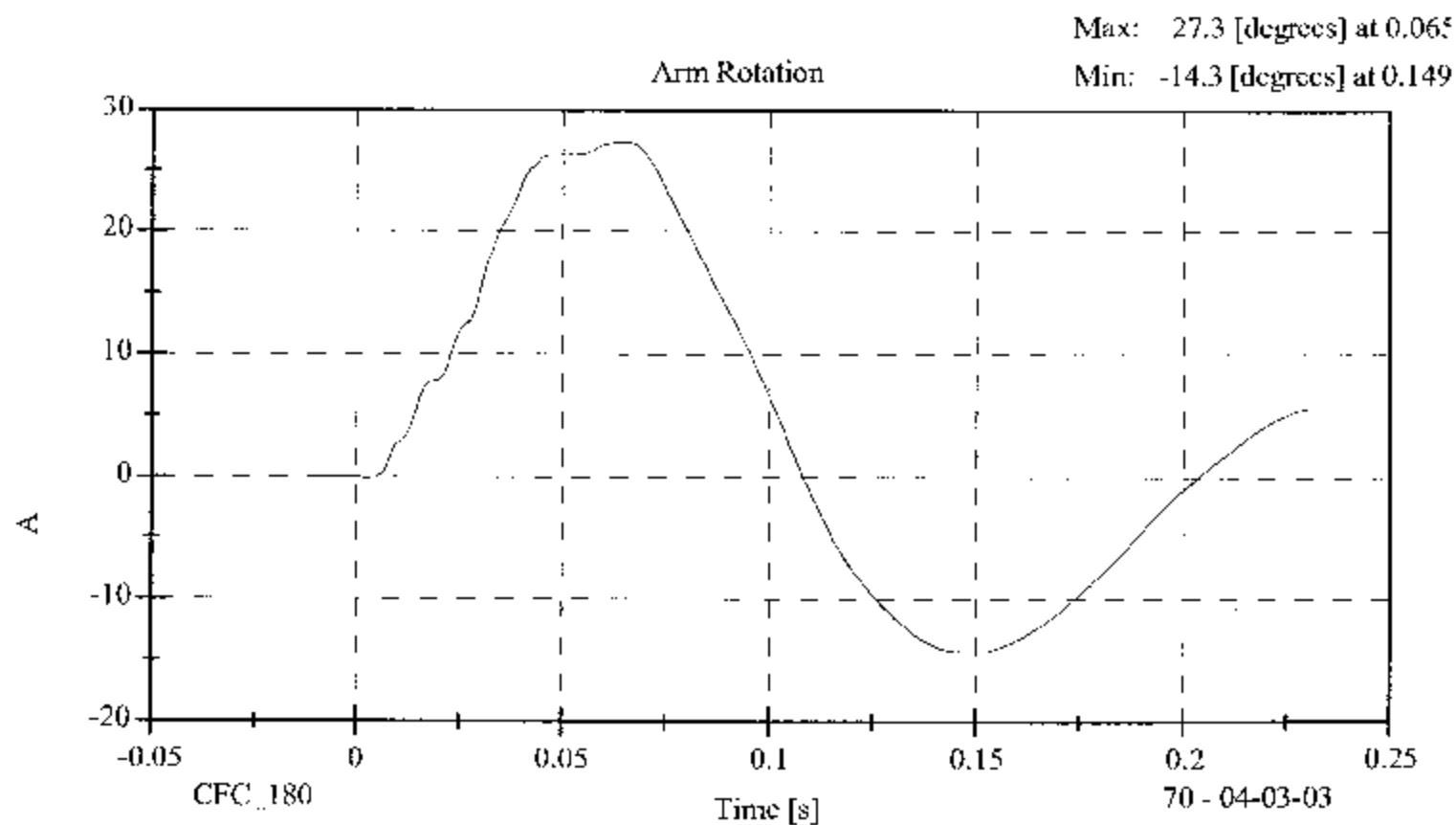
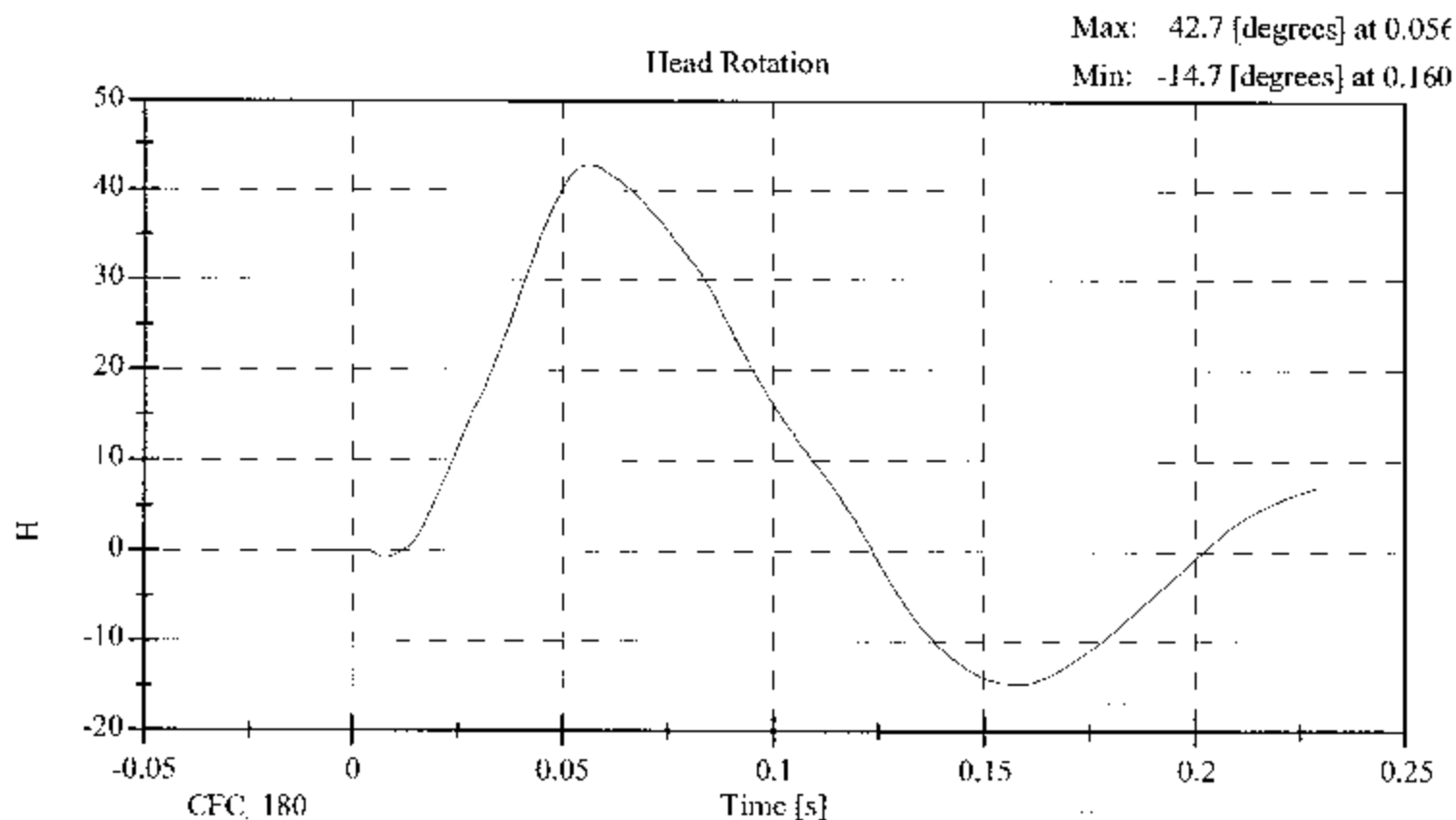
SID Serial No : <u>016</u>	Sequential Test Number: <u>4</u>	
Date: <u>April 2 2003</u>	Laboratory Technician: <u>B. Swiecicki</u>	

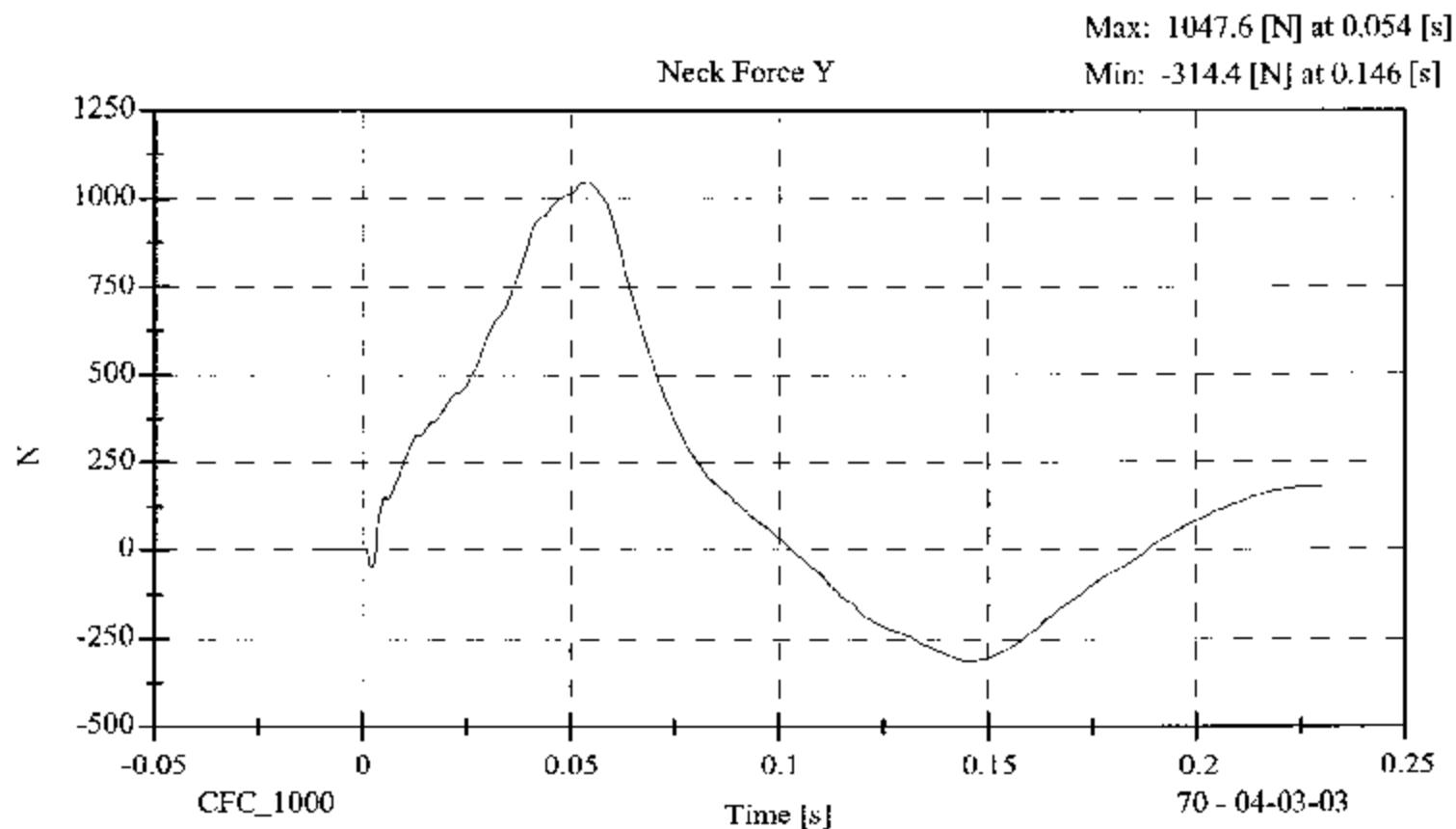
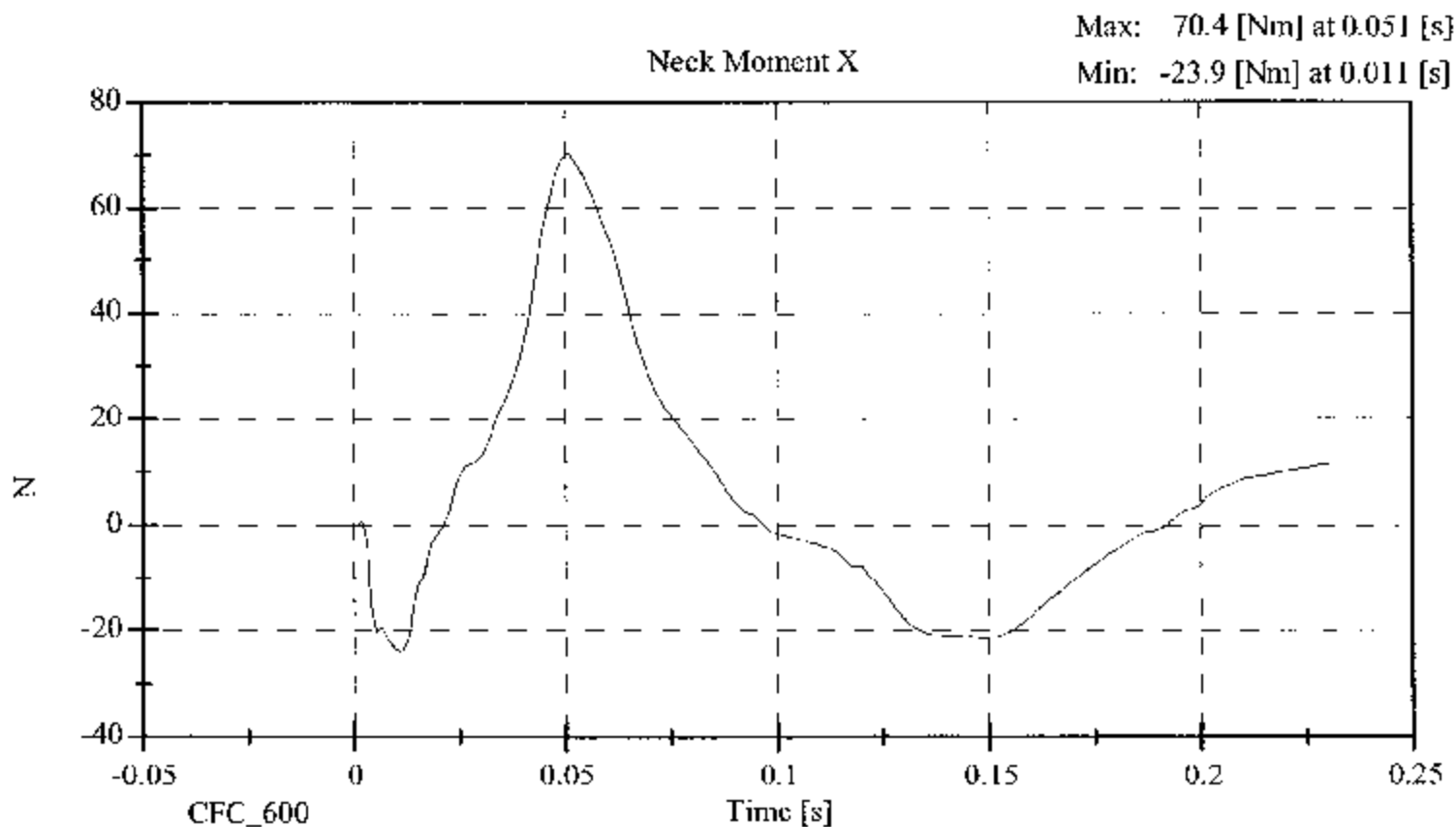
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	34.00
IMPACT VELOCITY (m/s)	6.89 - 7.13	7.01
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.15
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.29
DELTA V @ 30 ms (m/s)	5.73 - 7.01	6.15
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.20
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	69.48
ROT. ANGLE TIME to ZERO (ms)	50 - 70	57.60
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	88.49
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	47.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	7.90

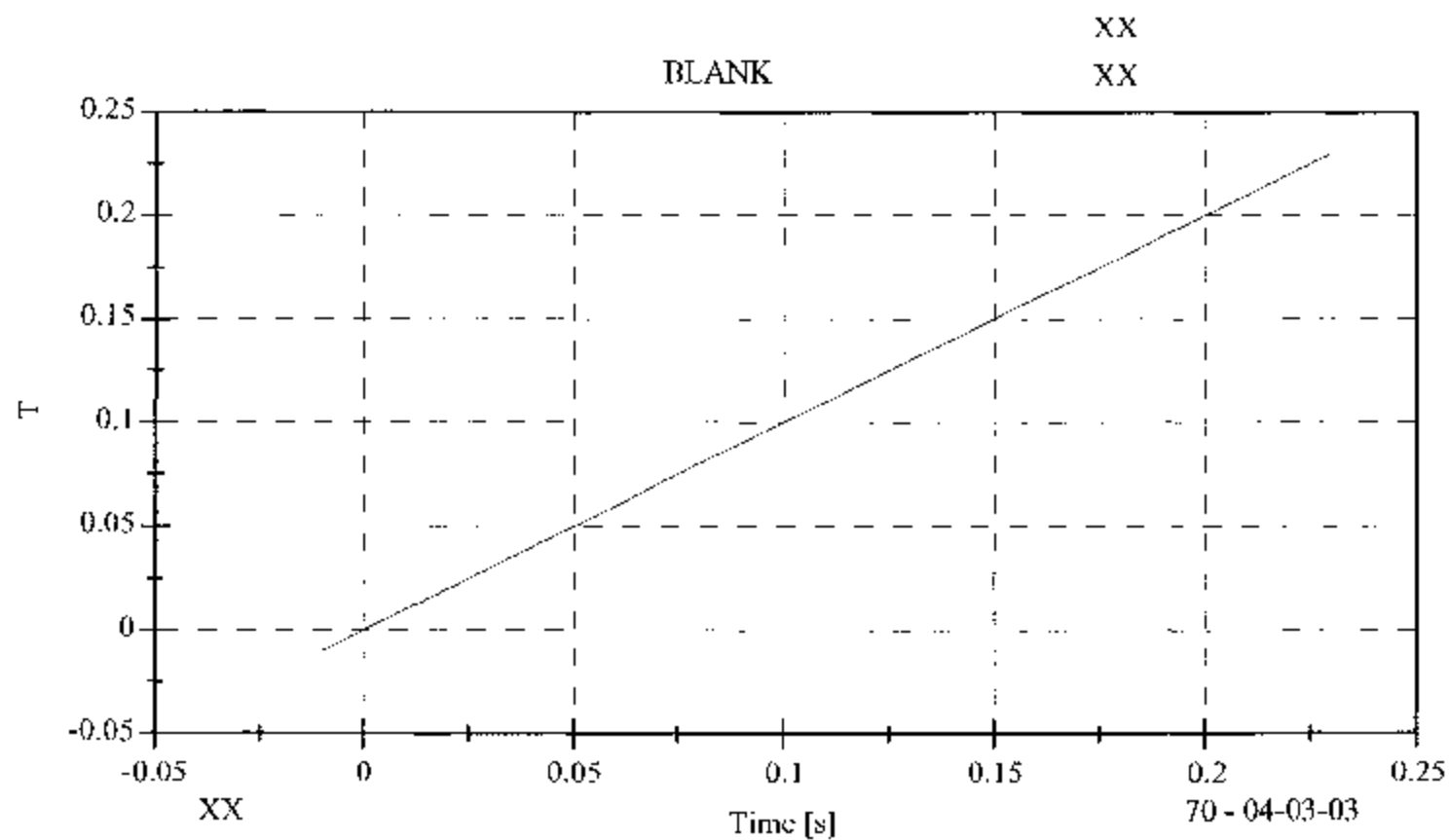
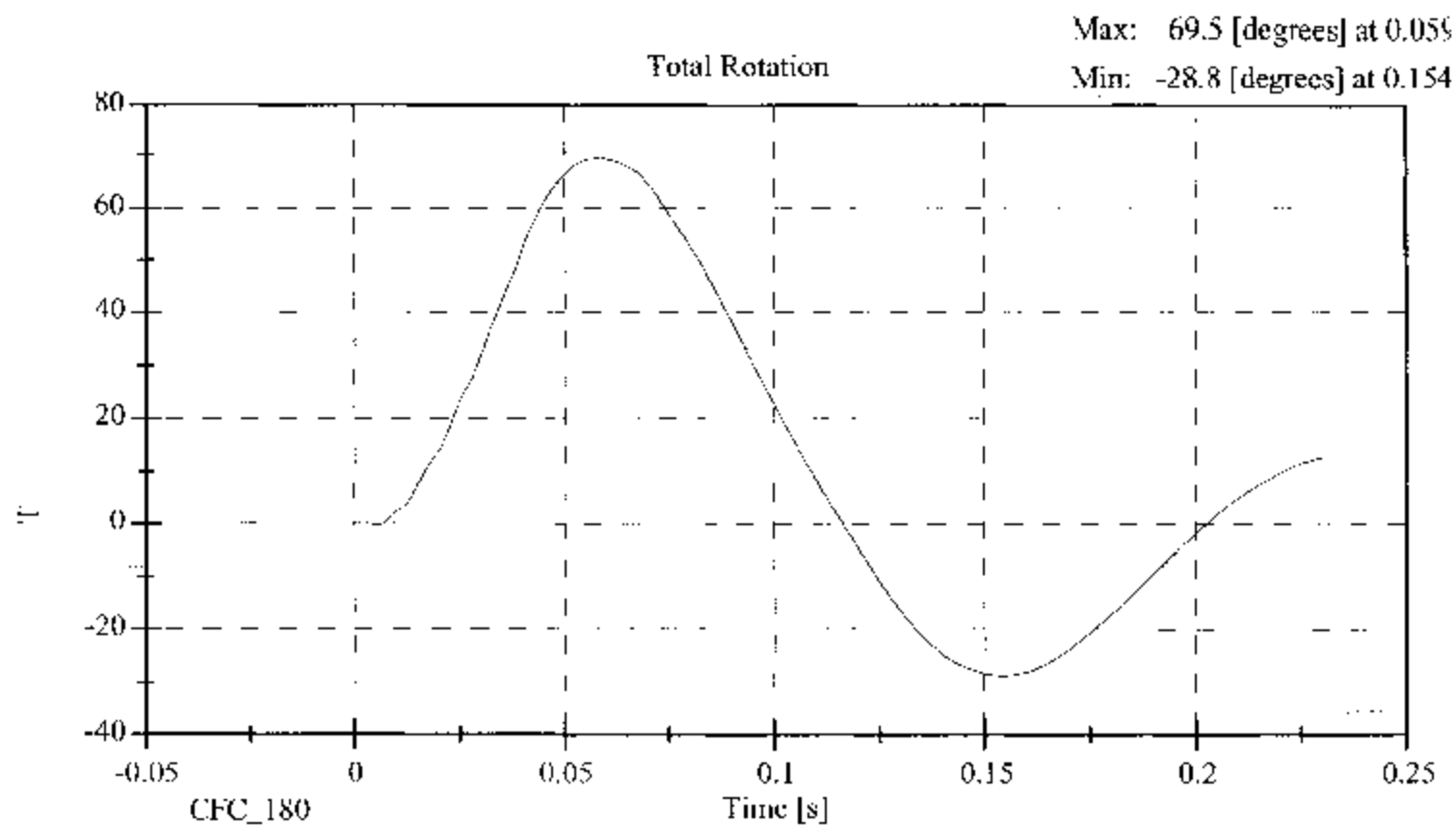
REMARKS: None



Neck Test







**ABDOMINAL COMPRESSION TEST
PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

4

Date: April 4, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 13 mm (N)	104 - 162	119.2
FORCE @ 19 mm (N)	163 - 221	177.9
FORCE @ 25 mm (N)	222 - 280	254.4
FORCE @ 33 mm (N)	325 - 391	369.2

REMARKS: None

Dummy S/N

016

W/A

Date

4-4-03

Performed By

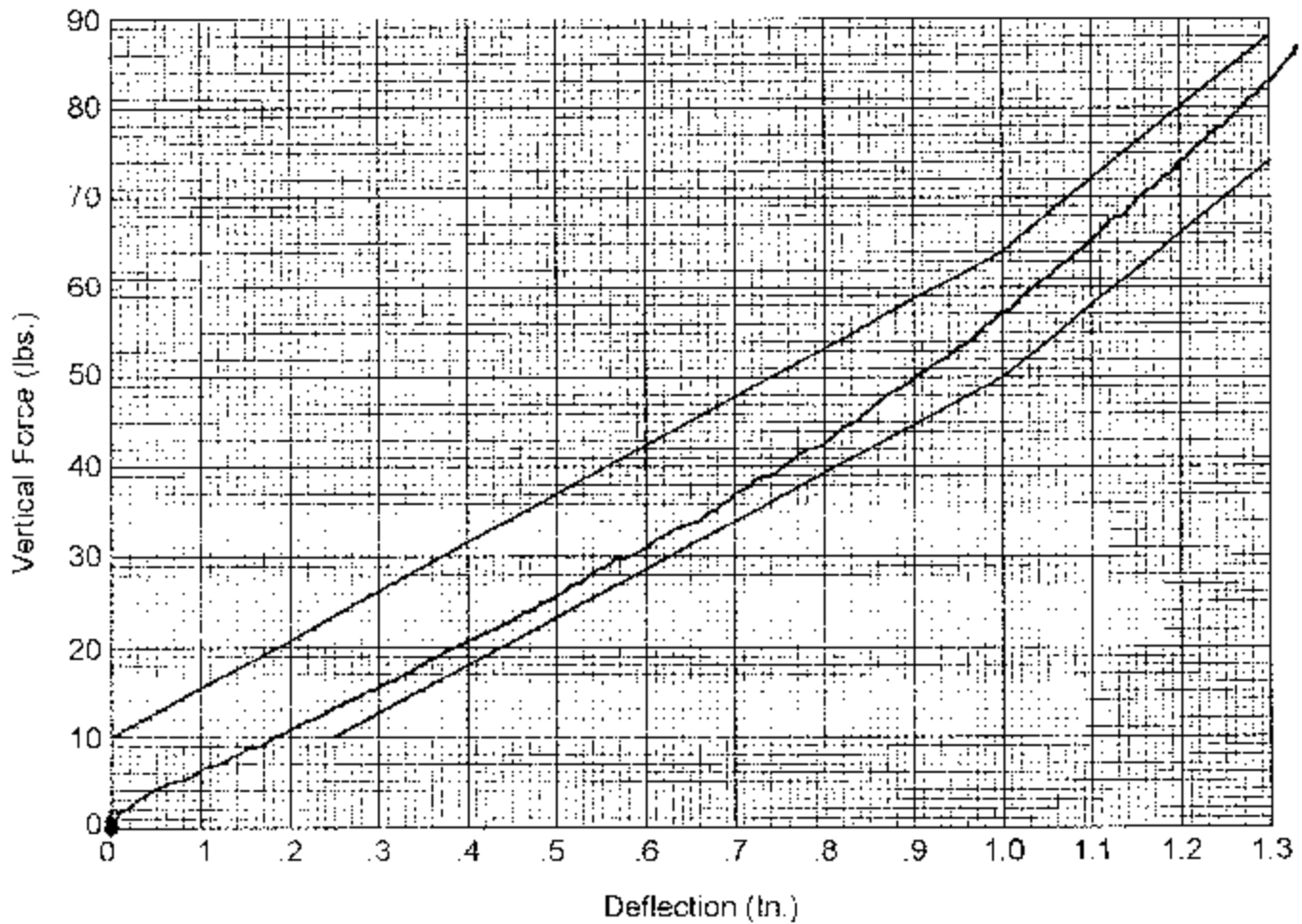
J.S.

Temp.

70°

Humidity

31%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

4

Date:

April 4, 2003

Laboratory Technician:

B. Swicicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	20.7
RELATIVE HUMIDITY (%)	10 - 70	31.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	117.9
FORCE @ 30° (N)	151.2 - 204.6	169.0
FORCE @ 40° (N)	204.6 - 258	222.4
RETURN ANGLE	12° max.	5°

REMARKS: None

Dummy S/N

C16

W/A

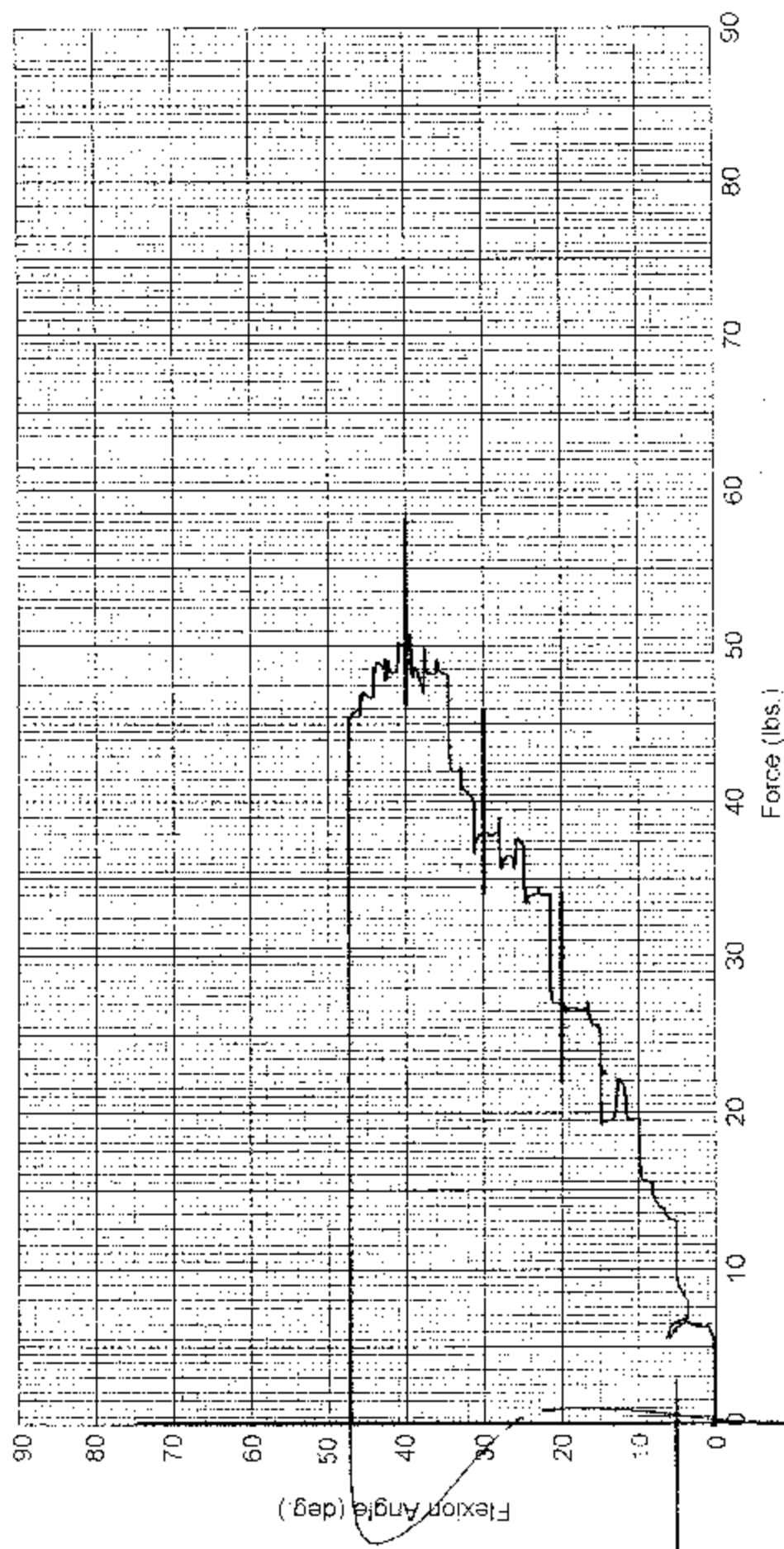
Date

4-14-03

Performed By

Temp.

Humidity



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

4

Date: April 4, 2003

Laboratory Technician:

B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 015

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	511
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	371

REMARKS: None

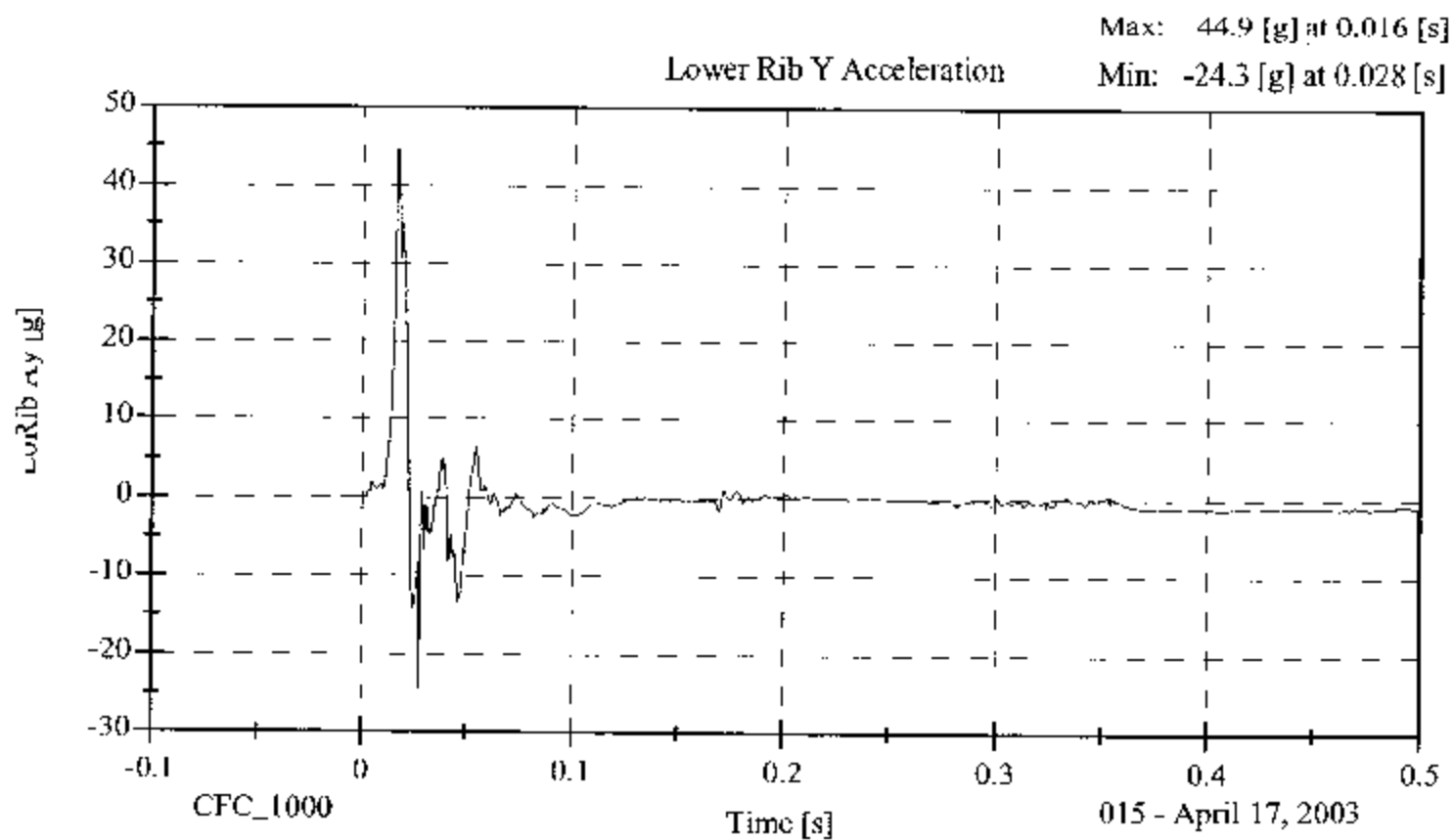
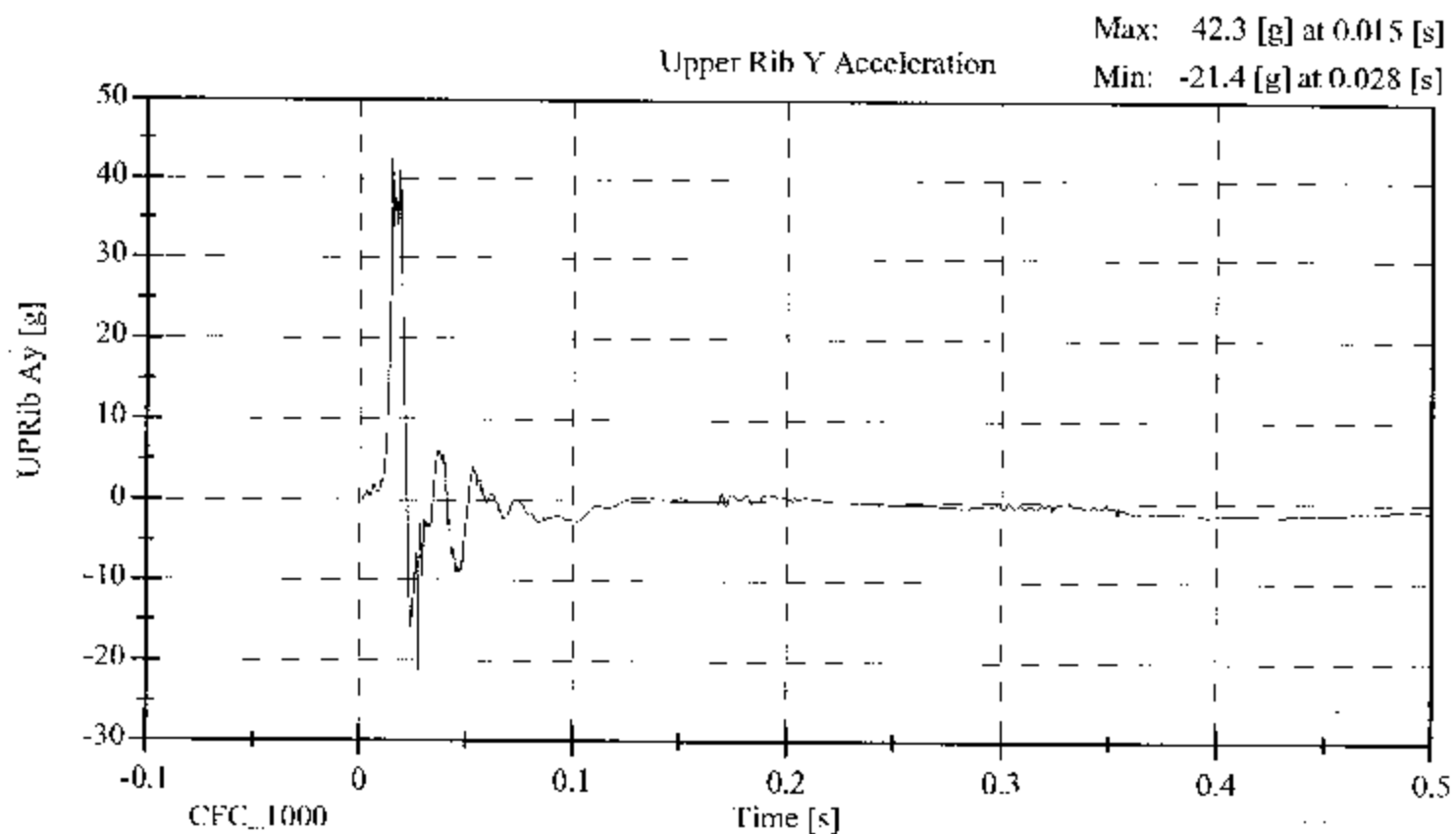
**LATERAL THORAX IMPACT TEST
POST TEST**

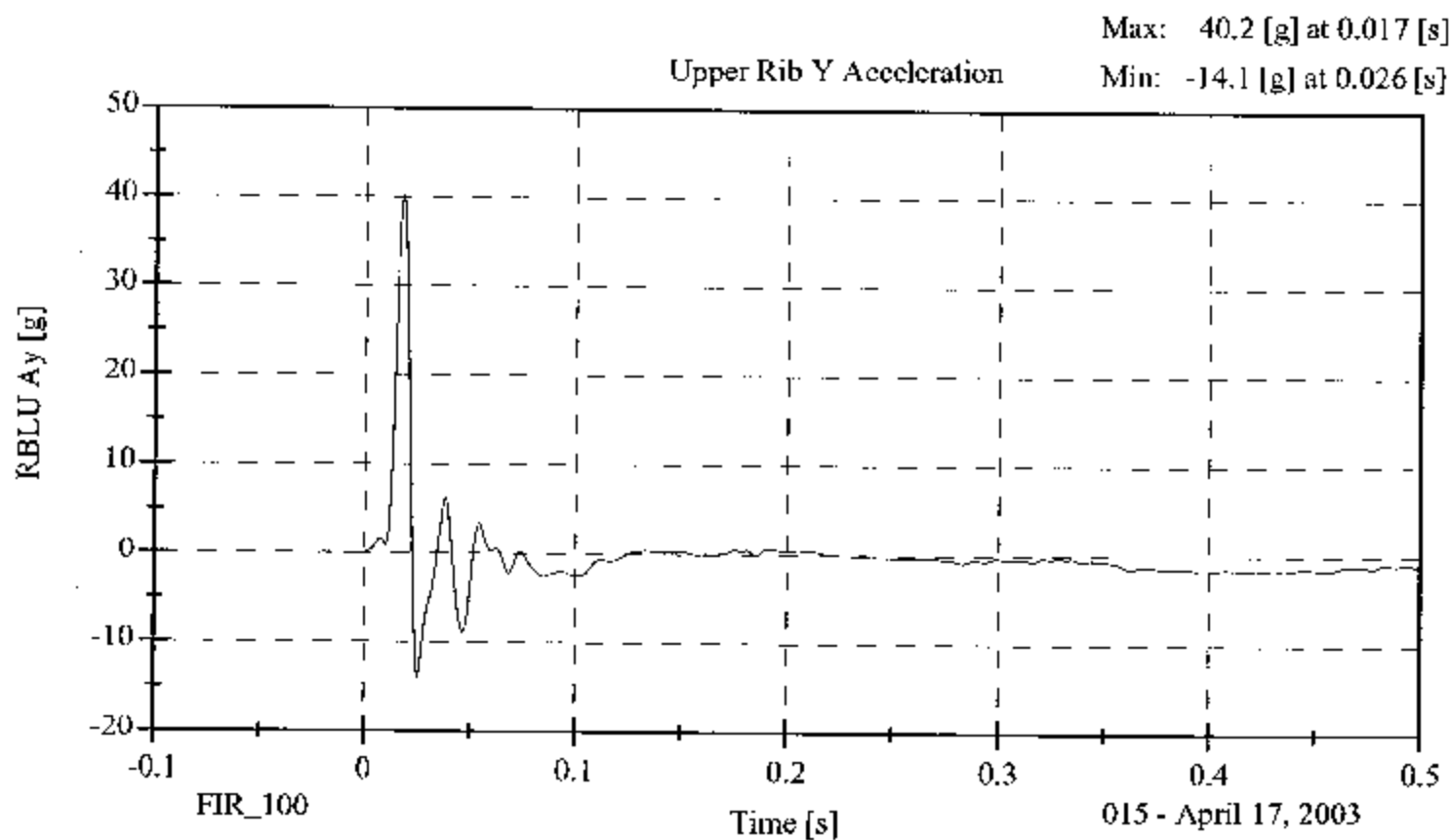
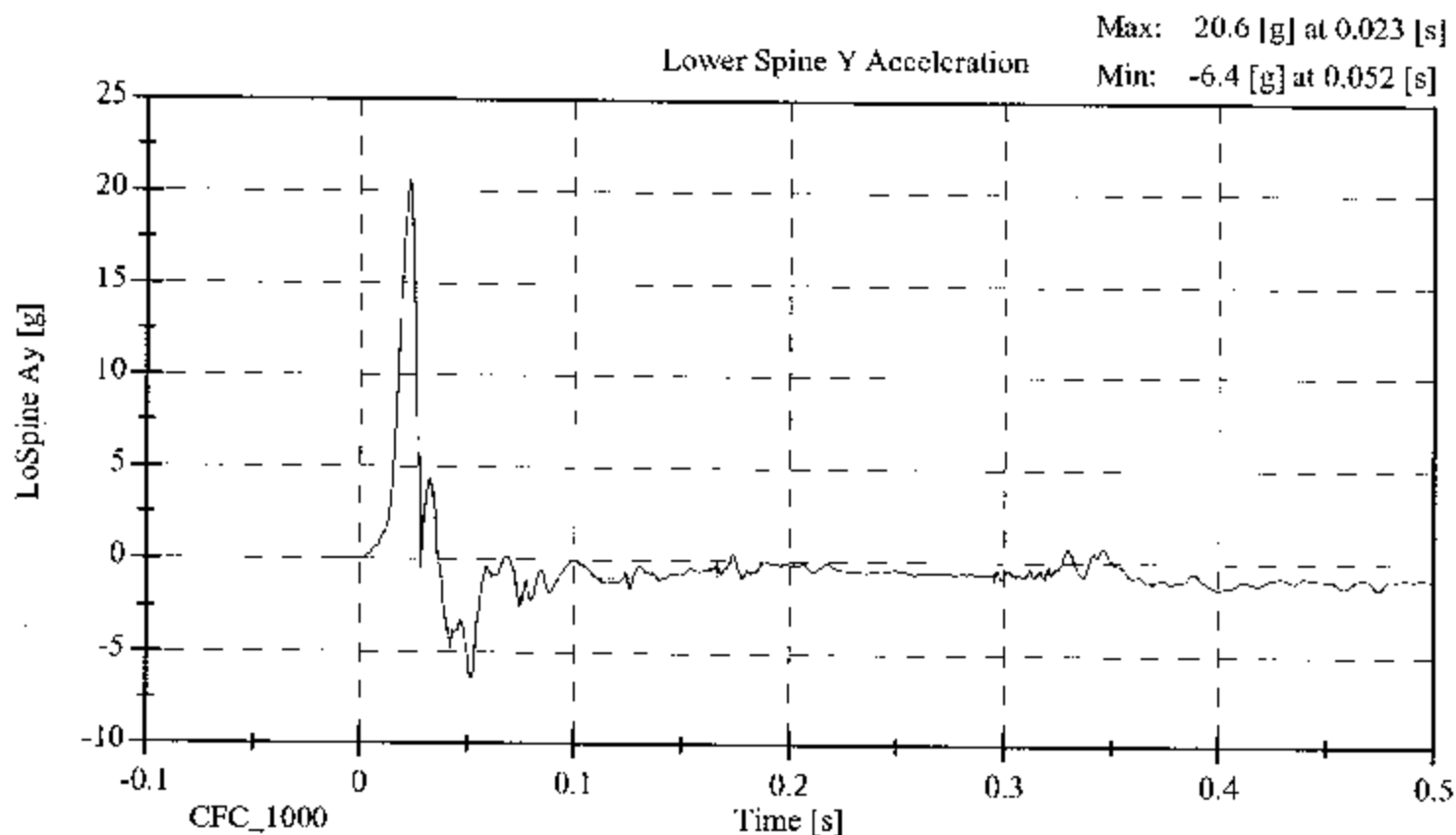
CONFIGURED FOR LEFT SIDE IMPACT

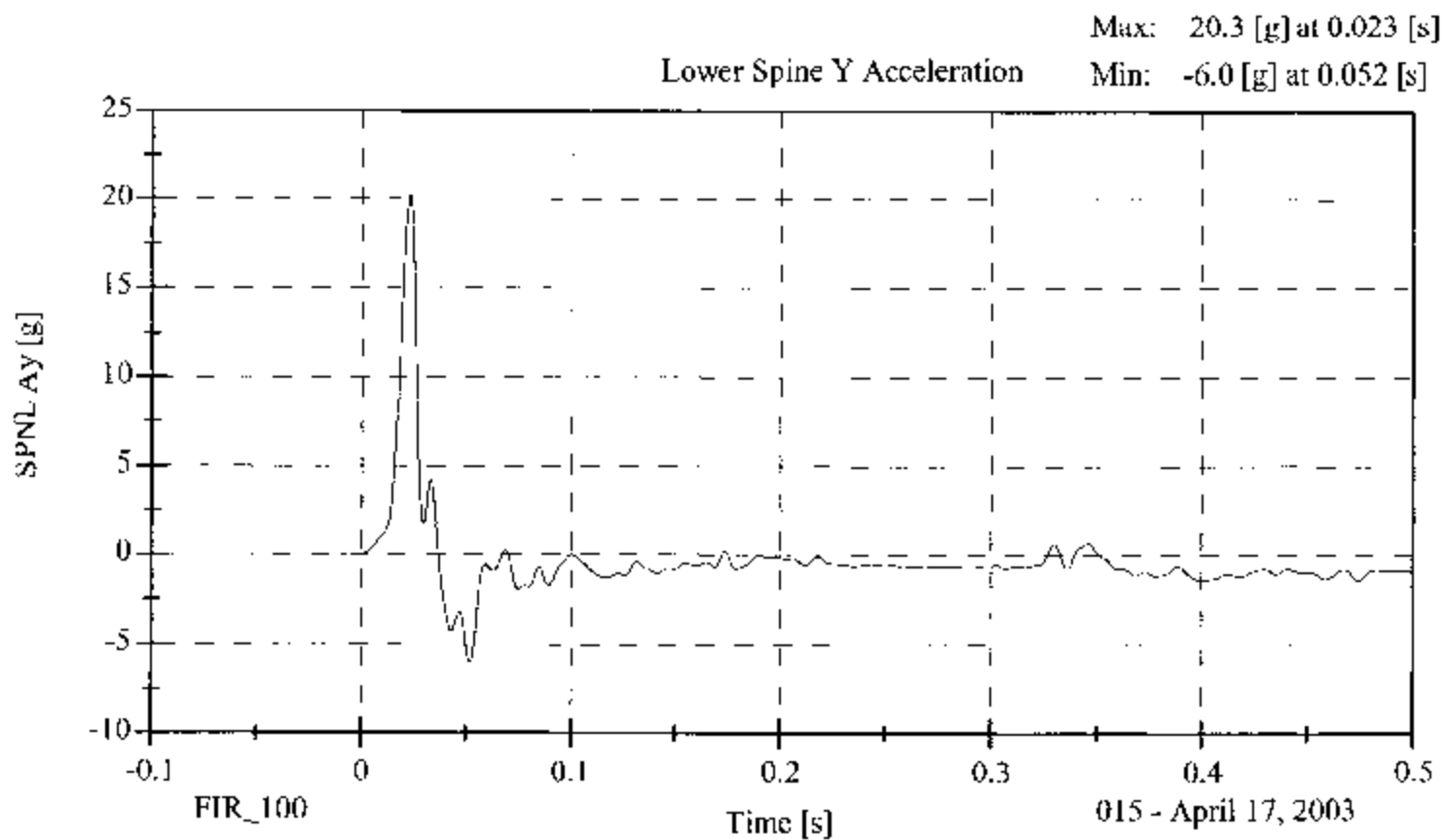
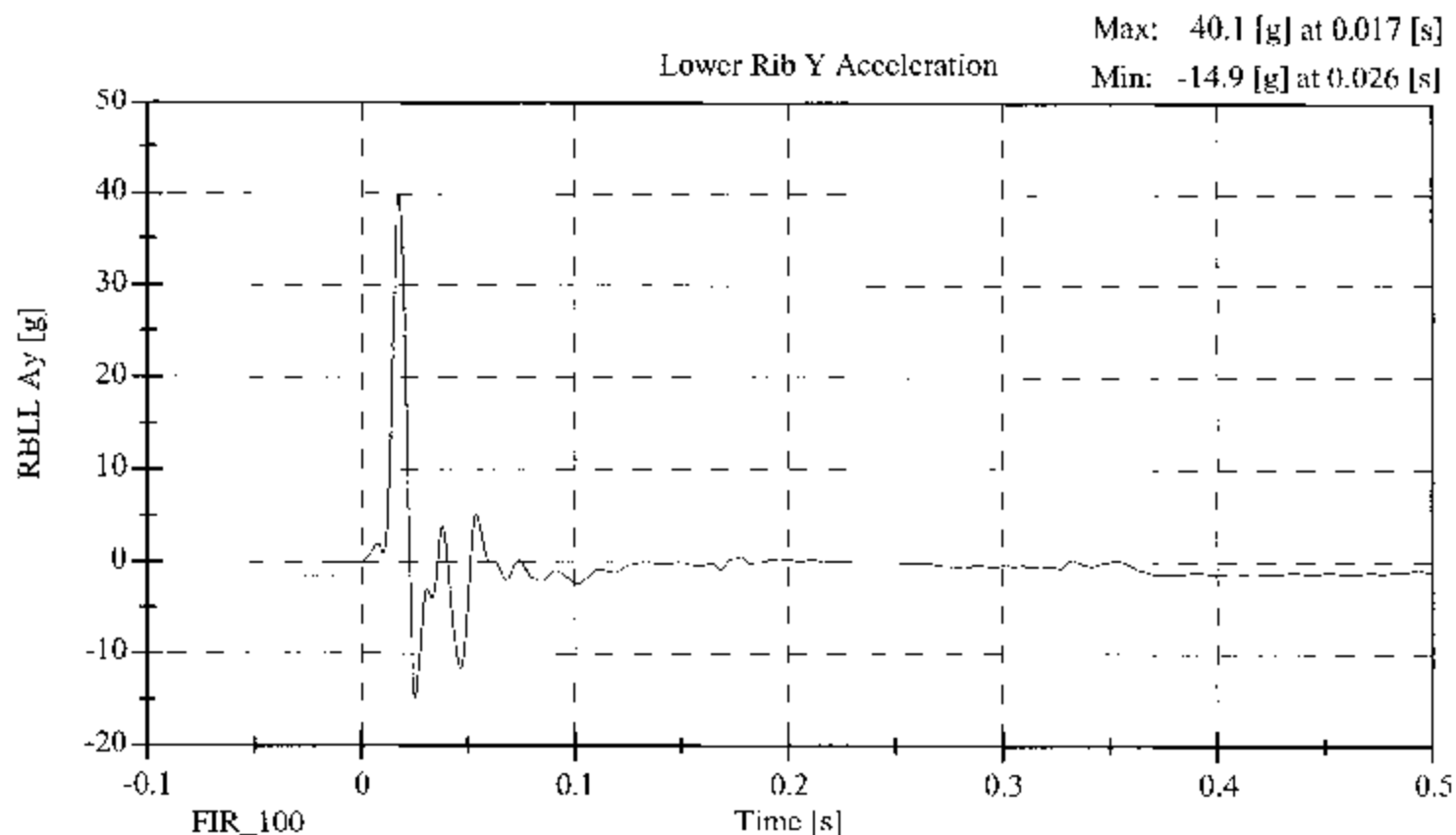
SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.00
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	40.23
LOWER RIB (g's)	37 - 46	40.05
LOWER SPINE (g's)	15 - 22	20.25

REMARKS: None







**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H13 Serial No.: 015

Sequential Test Number:

5

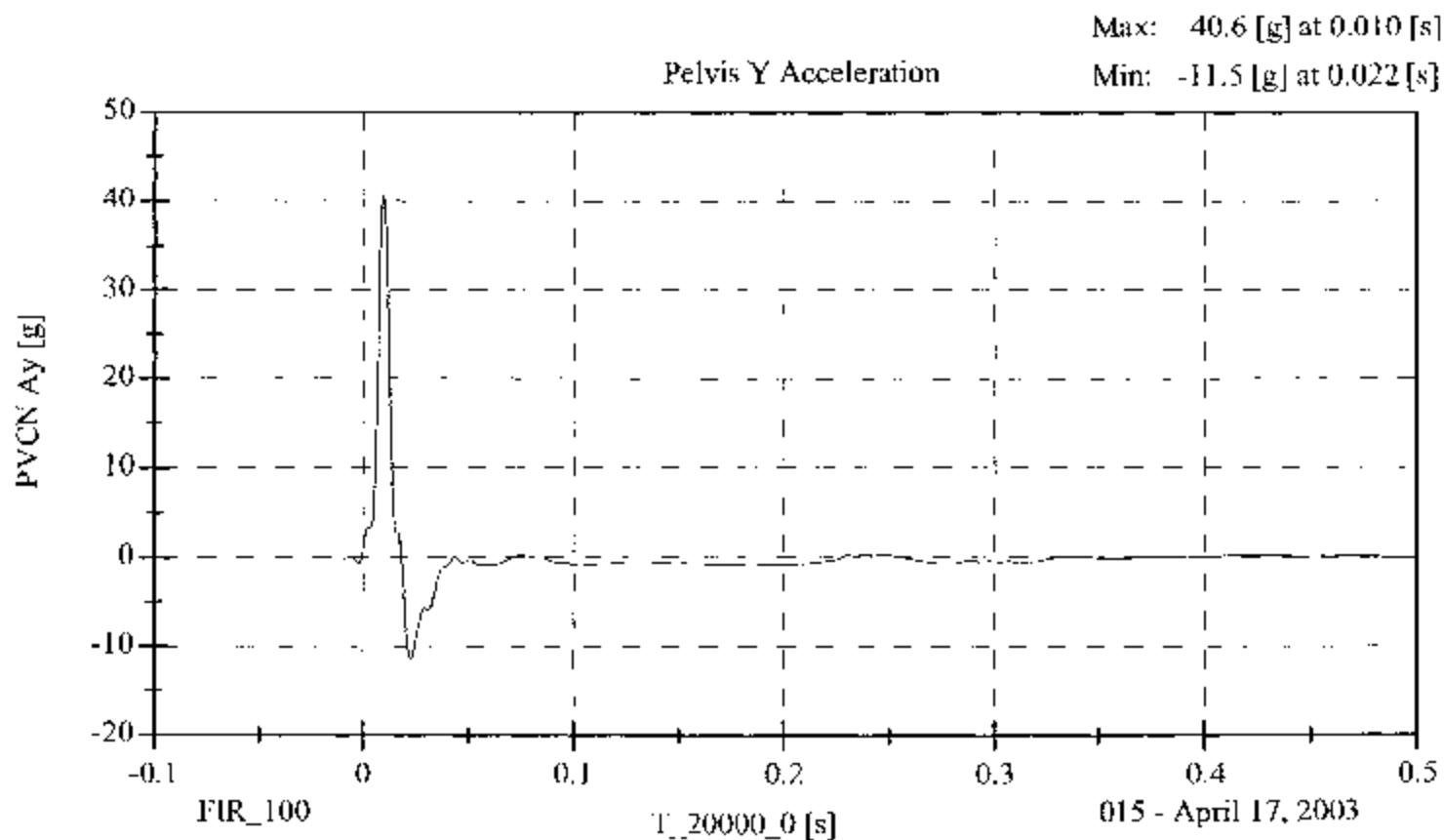
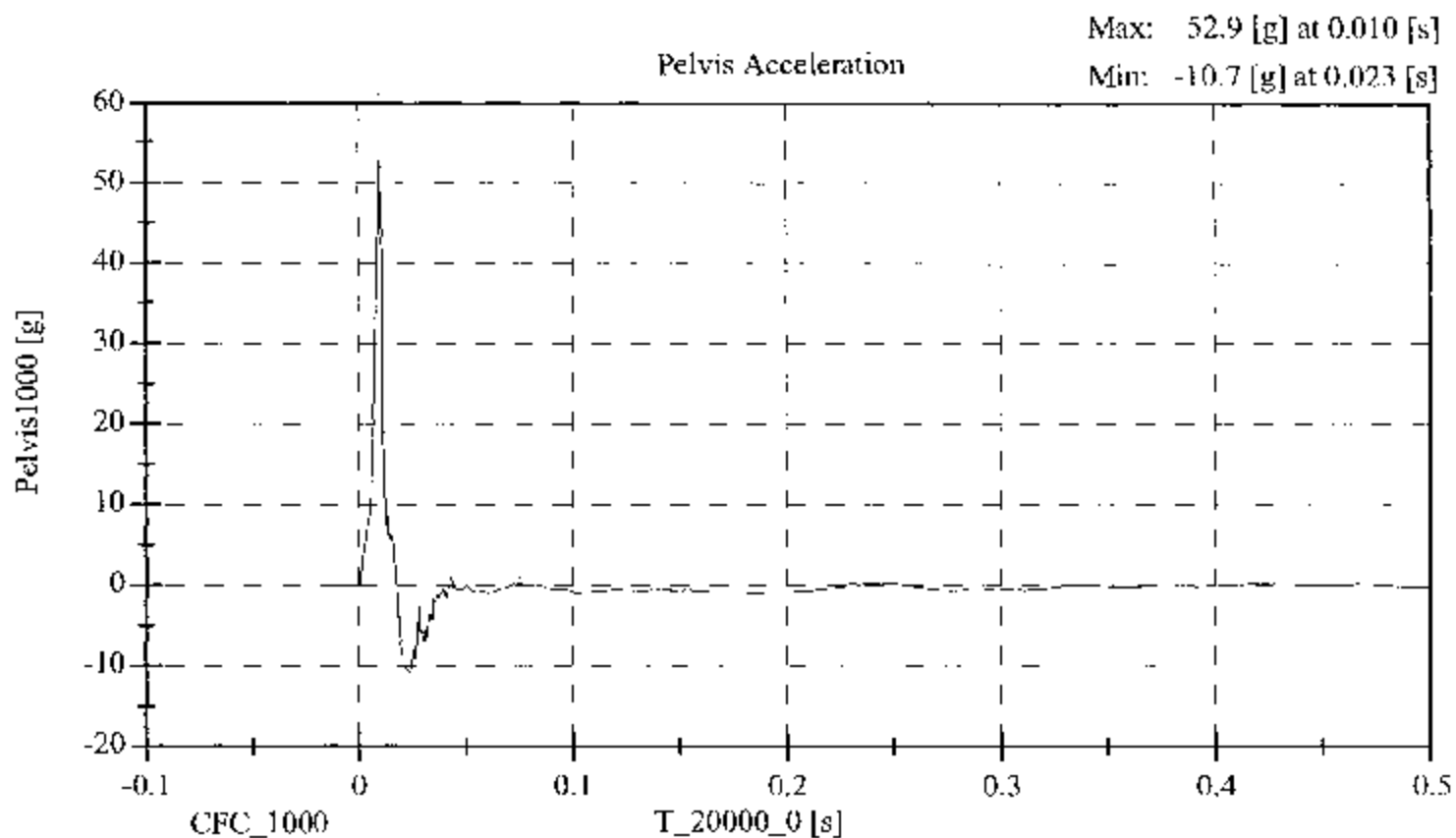
Date: April 17, 2003

Laboratory Technician:

B. Swiericki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.00
PROBE SPEED (m/s)	4.27 - 4.33	4.29
PELVIS ACCELERATION (g's)	40 - 60	40.64

REMARKS: None



**HEAD DROP TEST
POST-TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015	Sequential Test Number: 5
Date: April 16, 2003	Laboratory Technician: B. Swiecicki

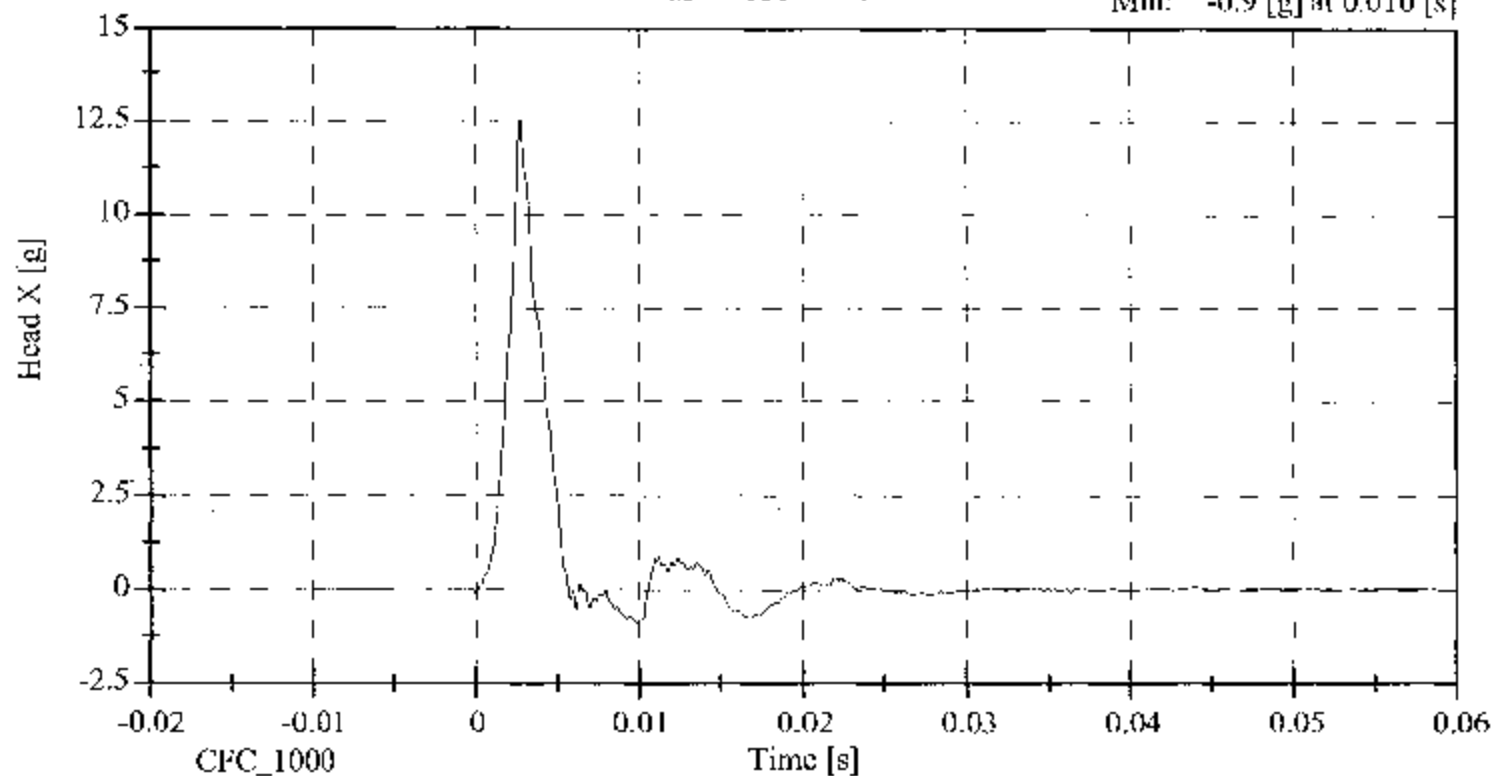
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	30.00
PEAK RESULTANT ACCELERATION (Gs)	120 - 150	137.68
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	12.57
CURVE PERCENT NONMODAL (%)	< 15	3.70

REMARKS: None

Head X Acceleration

Max: 12.6 [g] at 0.003 [s]

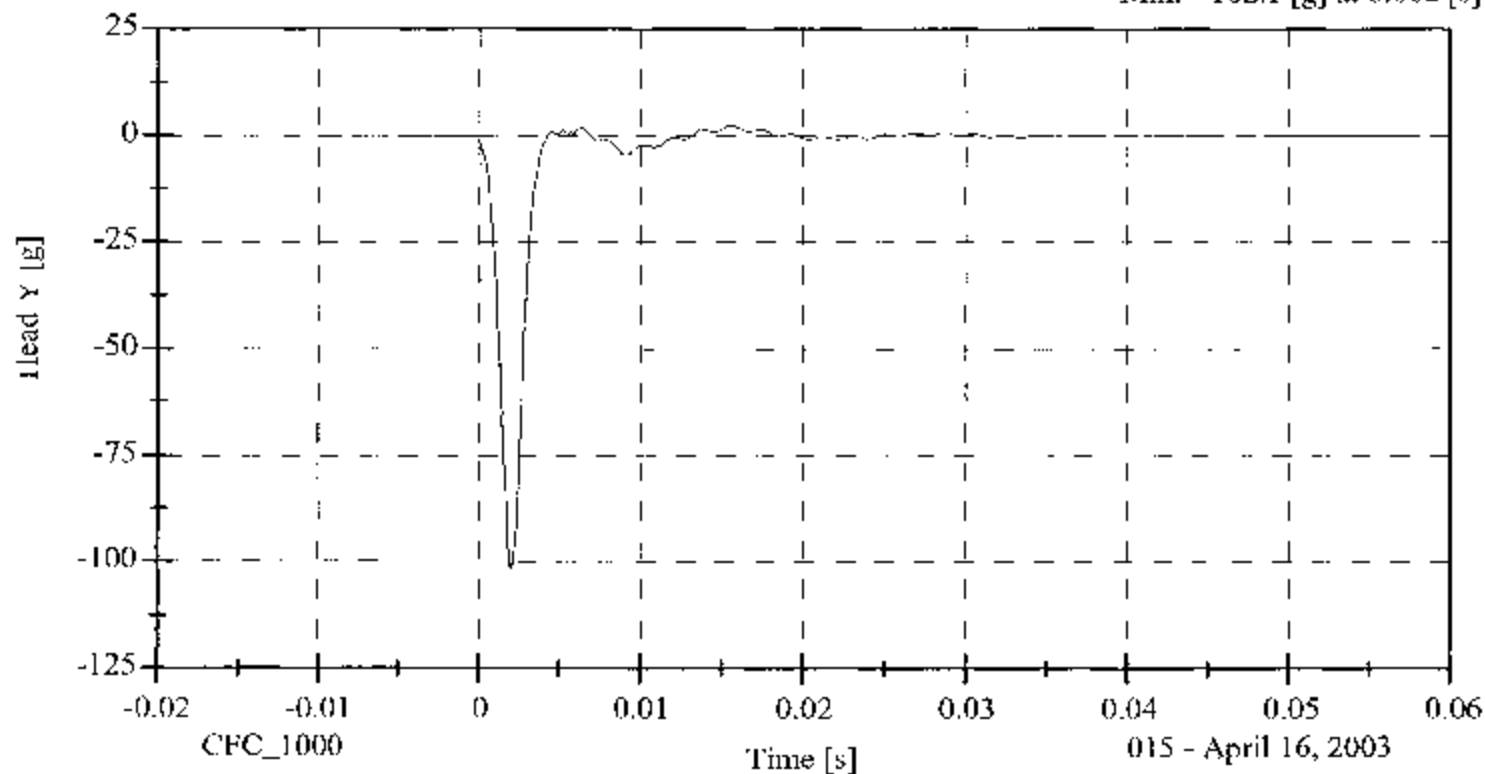
Min: -0.9 [g] at 0.010 [s]



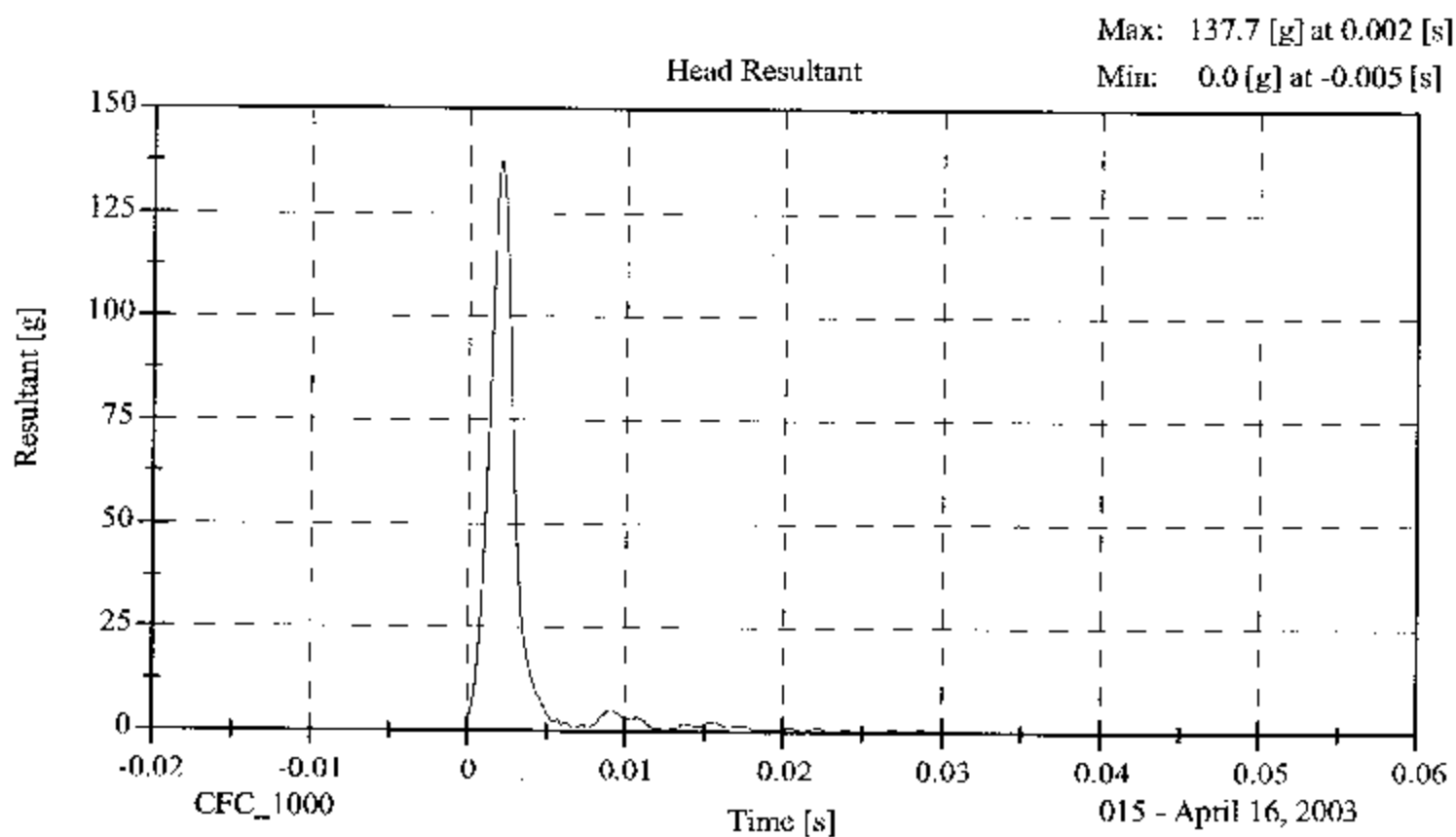
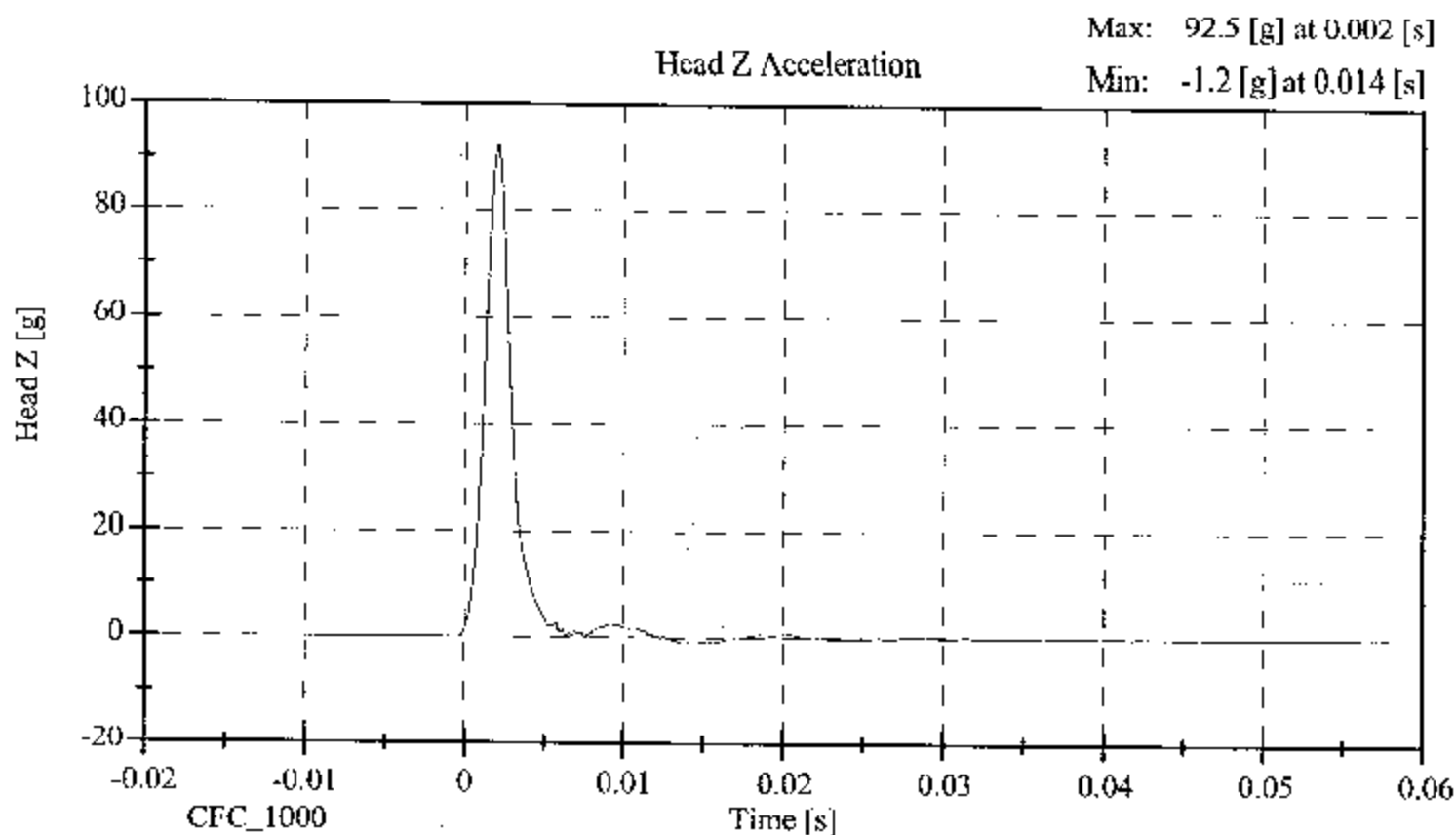
Head Y Acceleration

Max: 2.2 [g] at 0.015 [s]

Min: -102.1 [g] at 0.002 [s]



015 - April 16, 2003



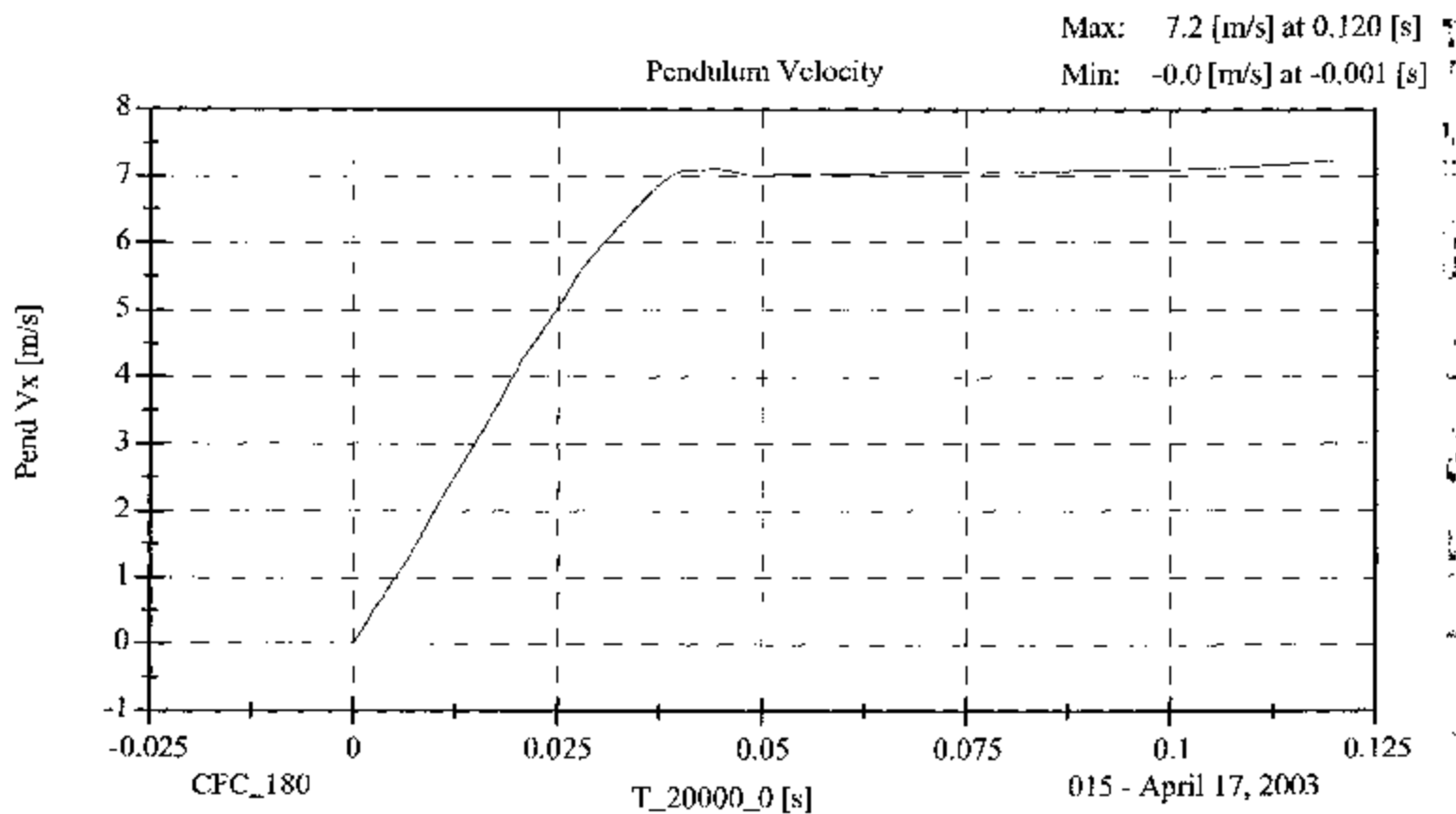
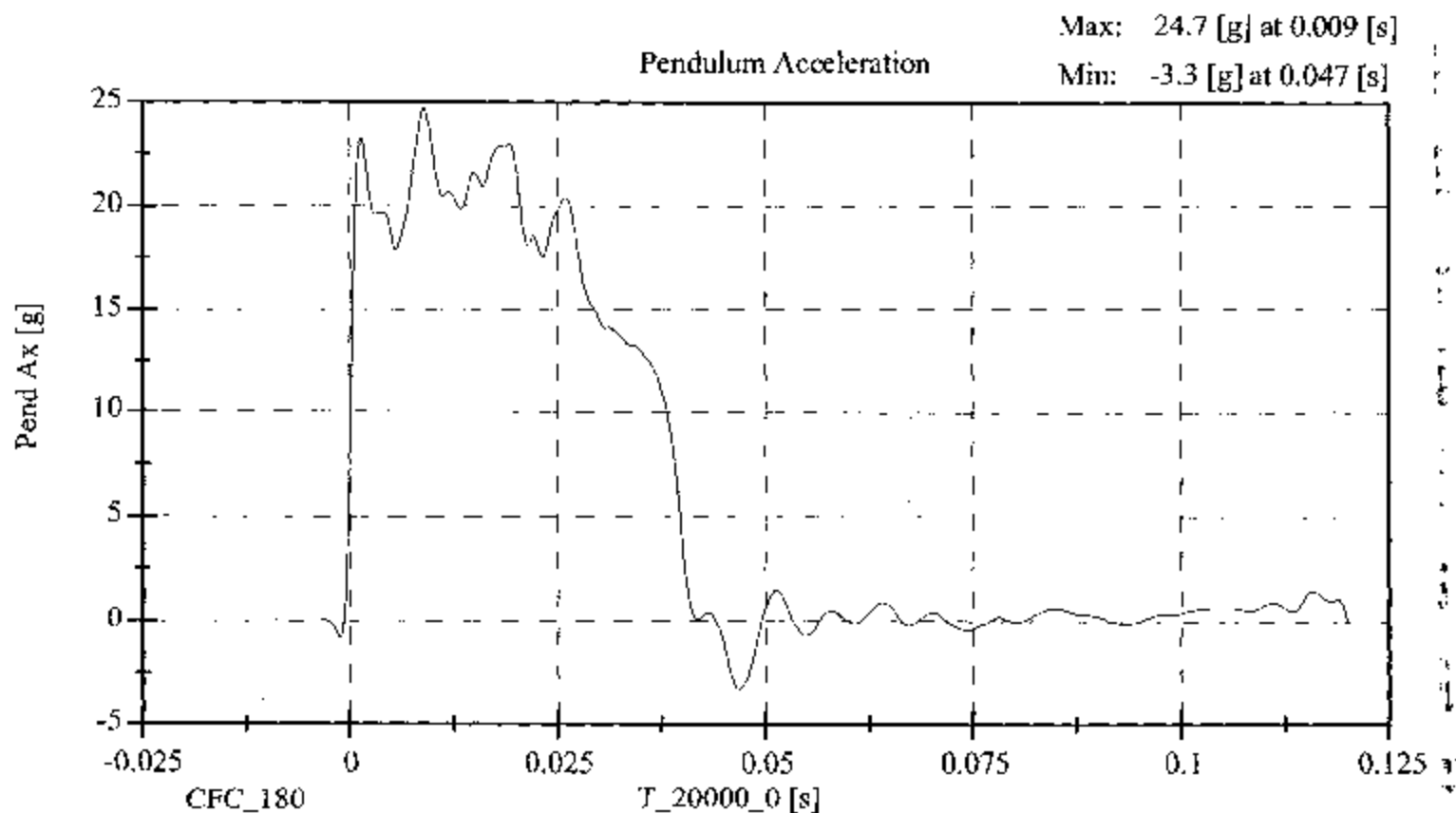
LATERAL NECK BENDING TEST
POST-TEST
(Test not required for SID certification)

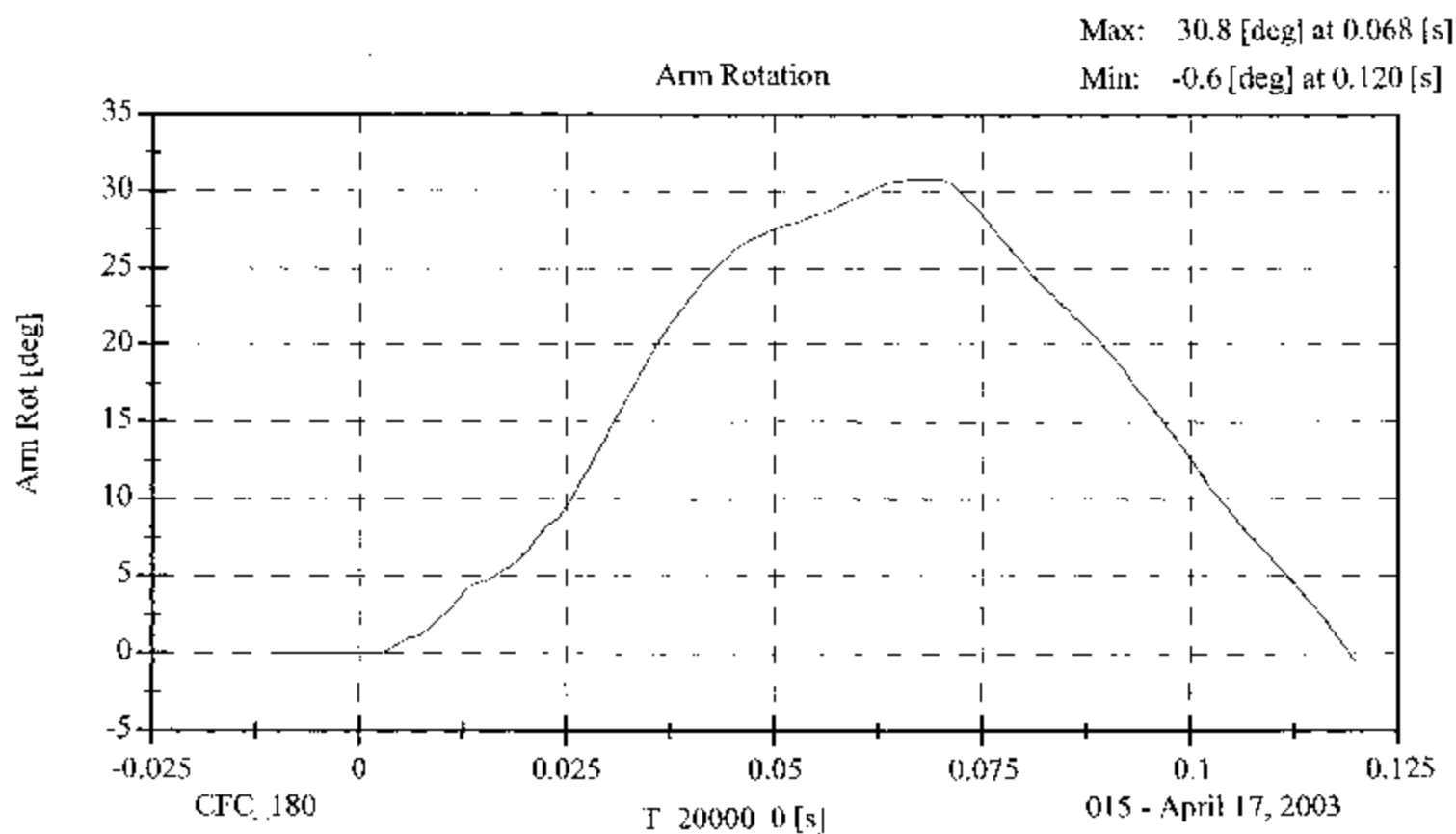
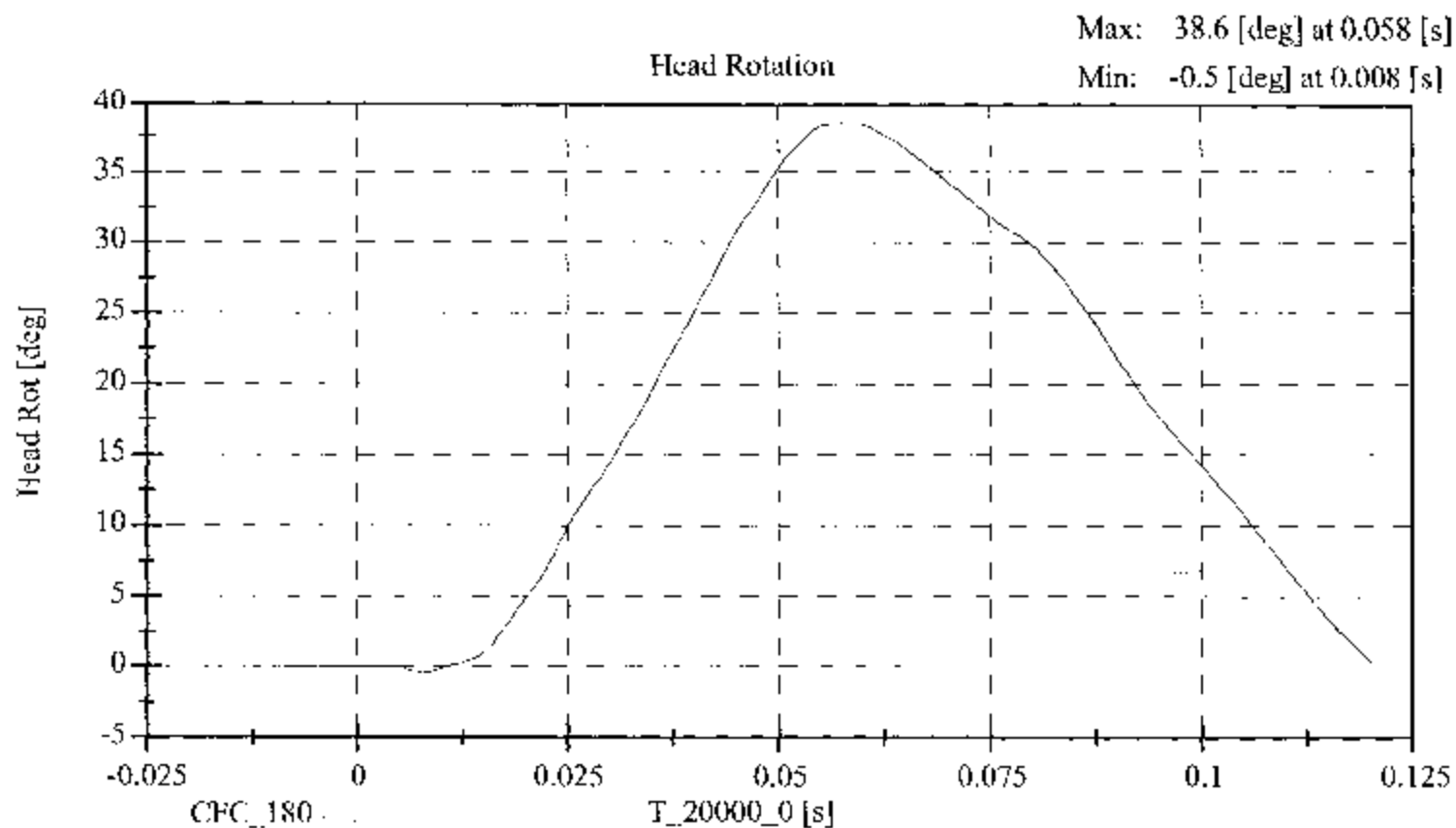
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

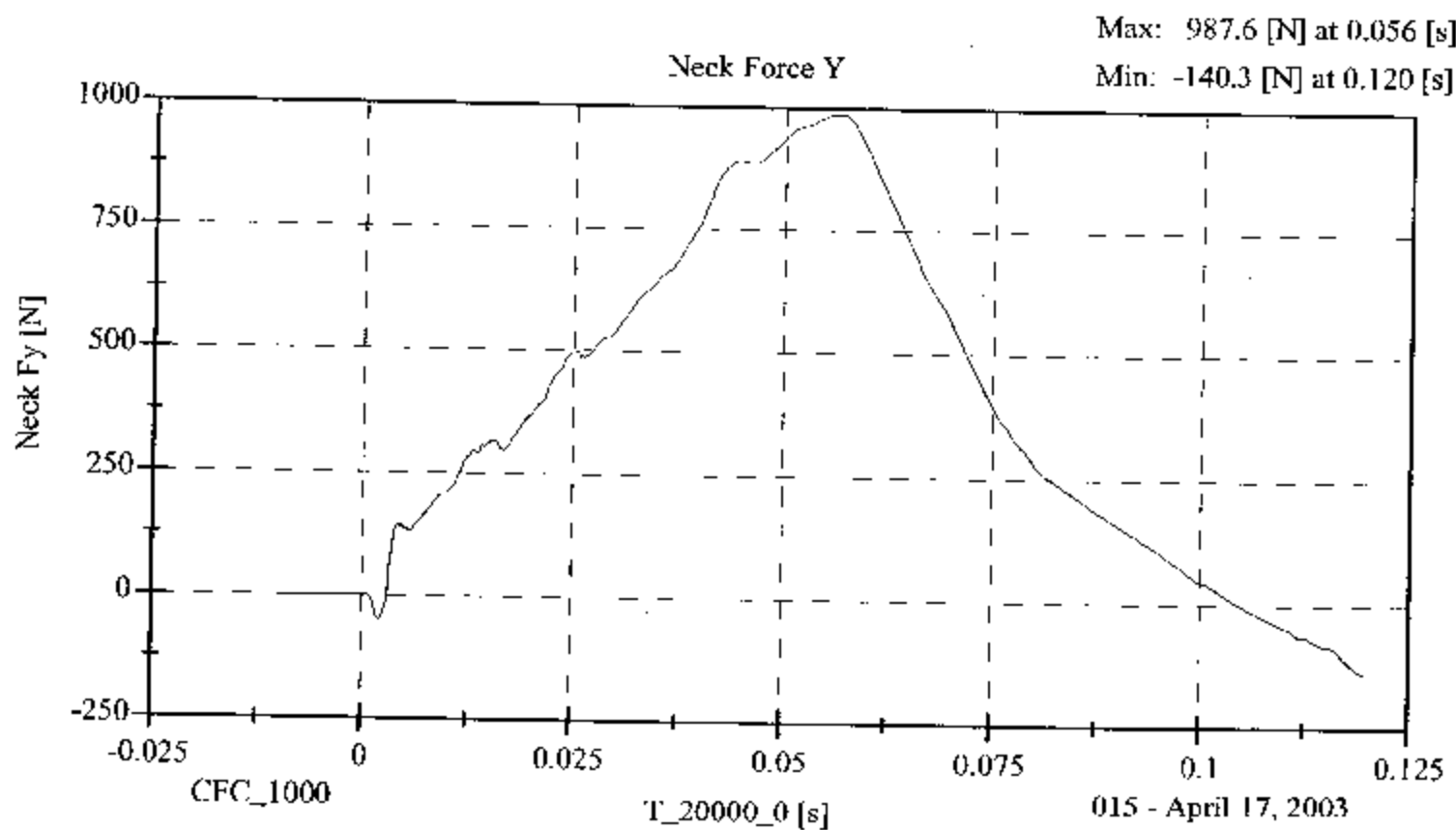
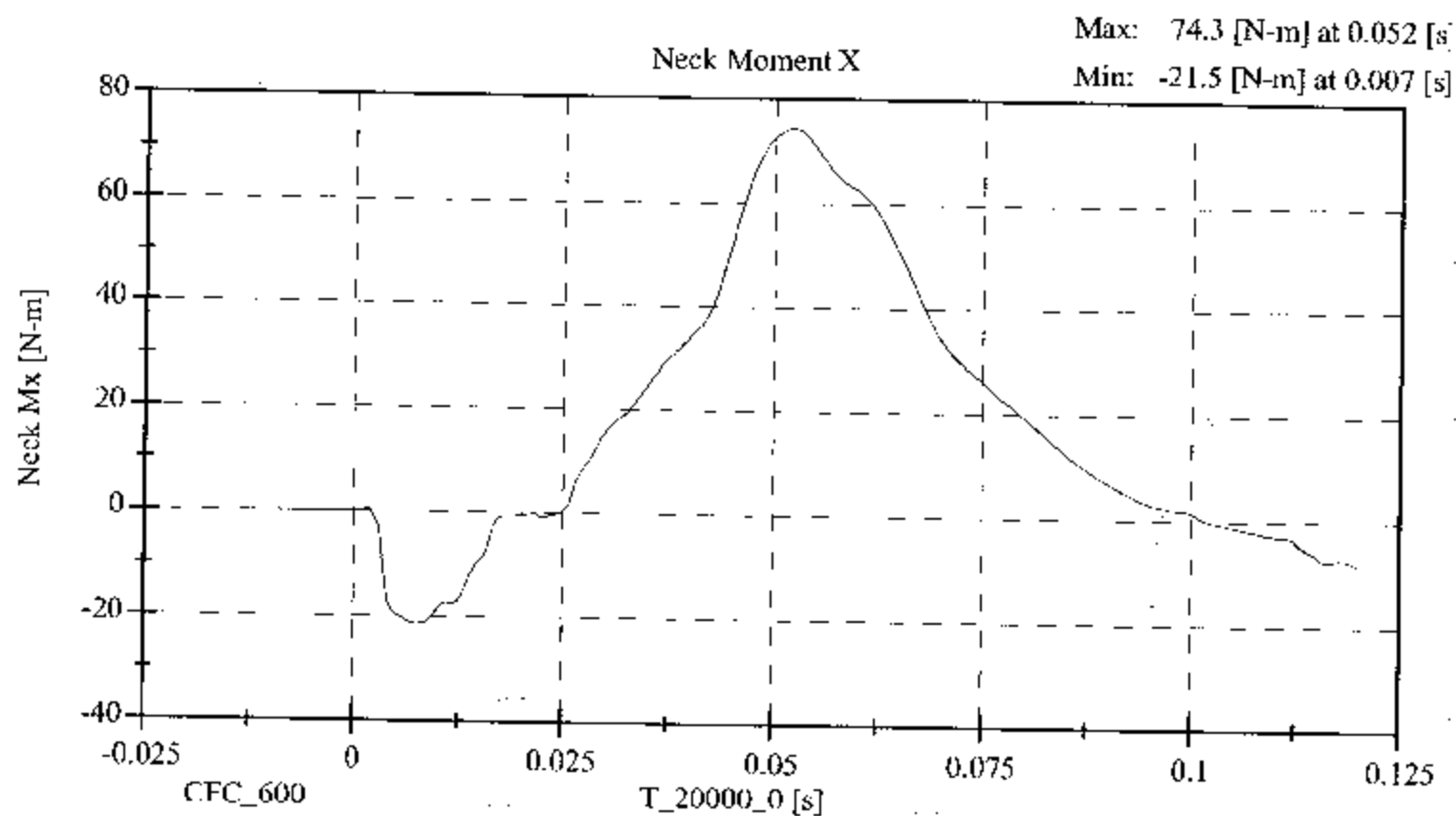
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	33.00
IMPACT VELOCITY (m/s)	6.89 - 7.13	23.20
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.02
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.13
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.91
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.24
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	68.09
ROT. ANGLE TIME to ZERO (ms)	50 - 70	59.45
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	91.39
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	50.50
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.15

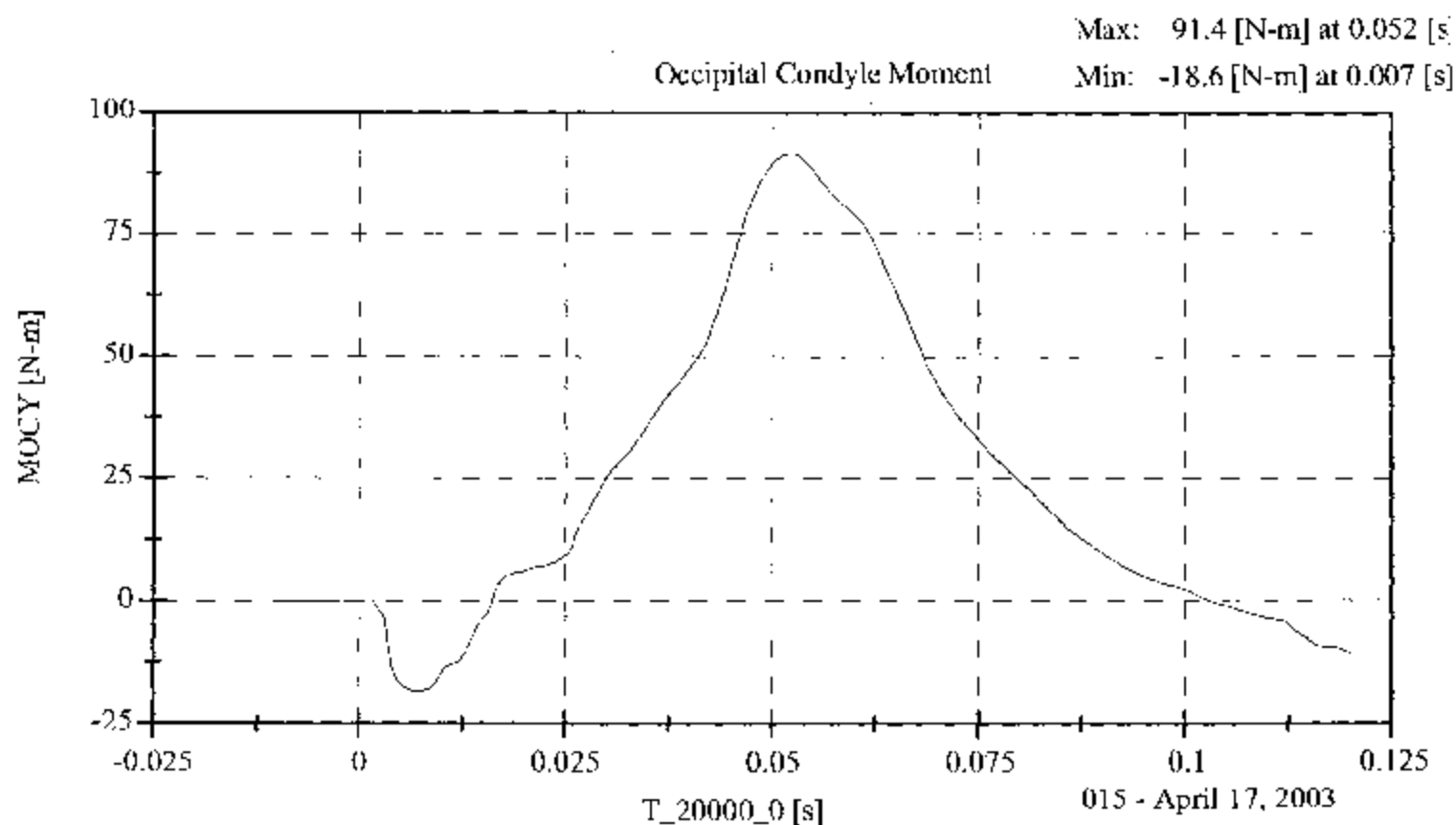
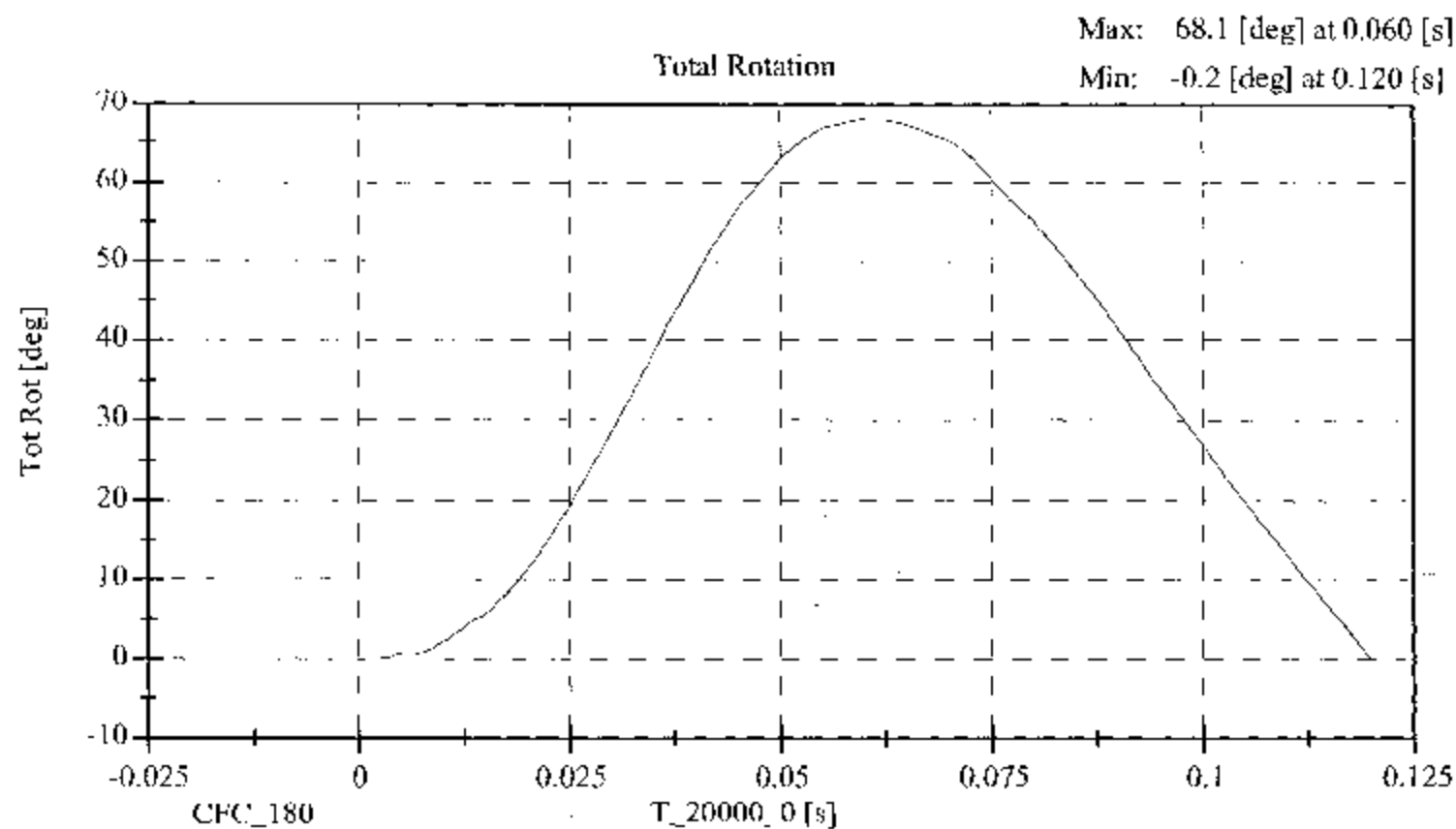
REMARKS: None





015 - April 17, 2003





**ABDOMINAL COMPRESSION TEST
POST TEST**
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 13 mm (N)	104 - 162	119.7
FORCE @ 19 mm (N)	163 - 221	187.7
FORCE @ 25 mm (N)	222 - 280	272.2
FORCE @ 33 mm (N)	325 - 391	387.0

REMARKS: None

Dummy S/N 015

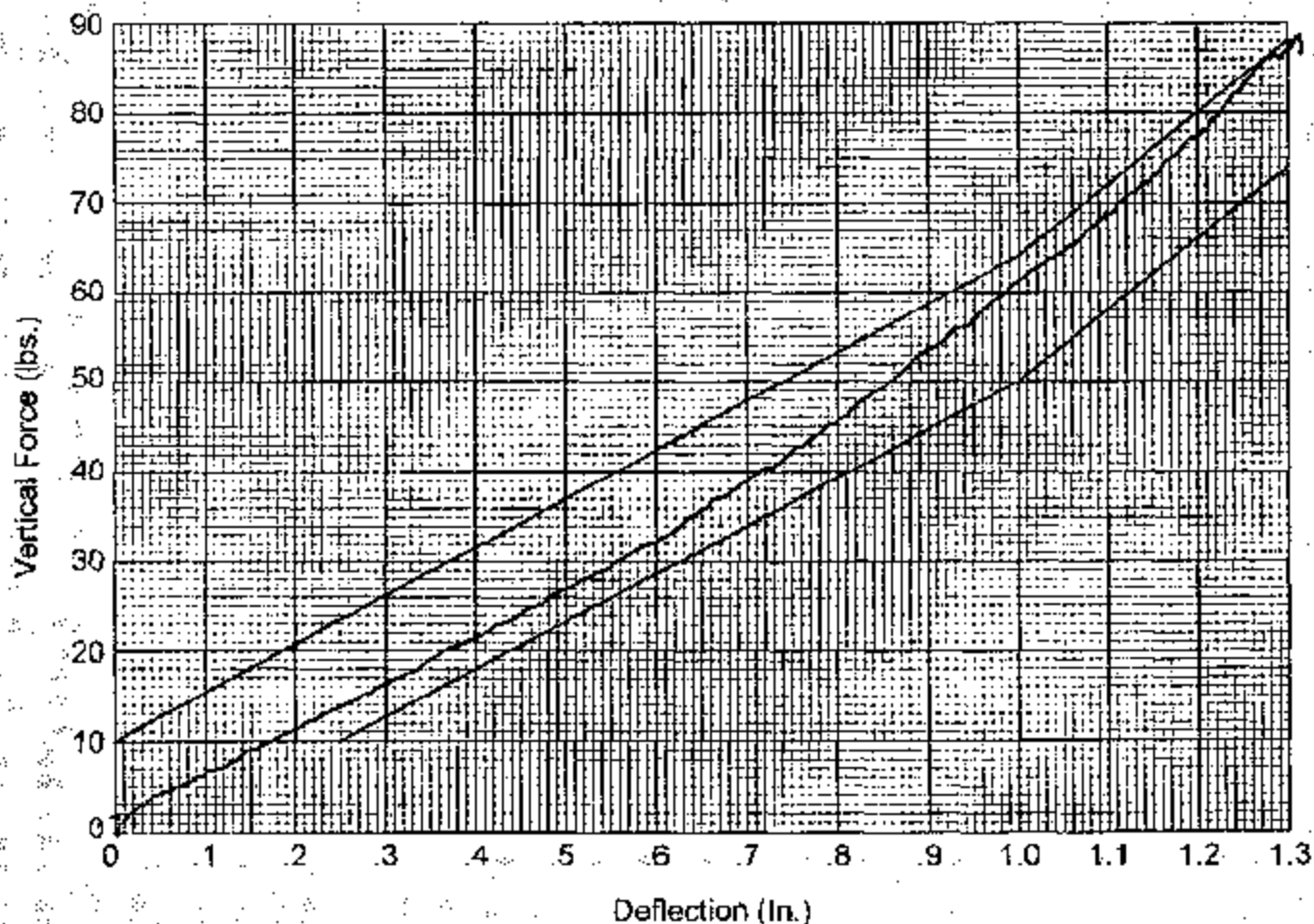
W/A

Date 4-17-05

Performed By BS

Temp. 70°

Humidity 33%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

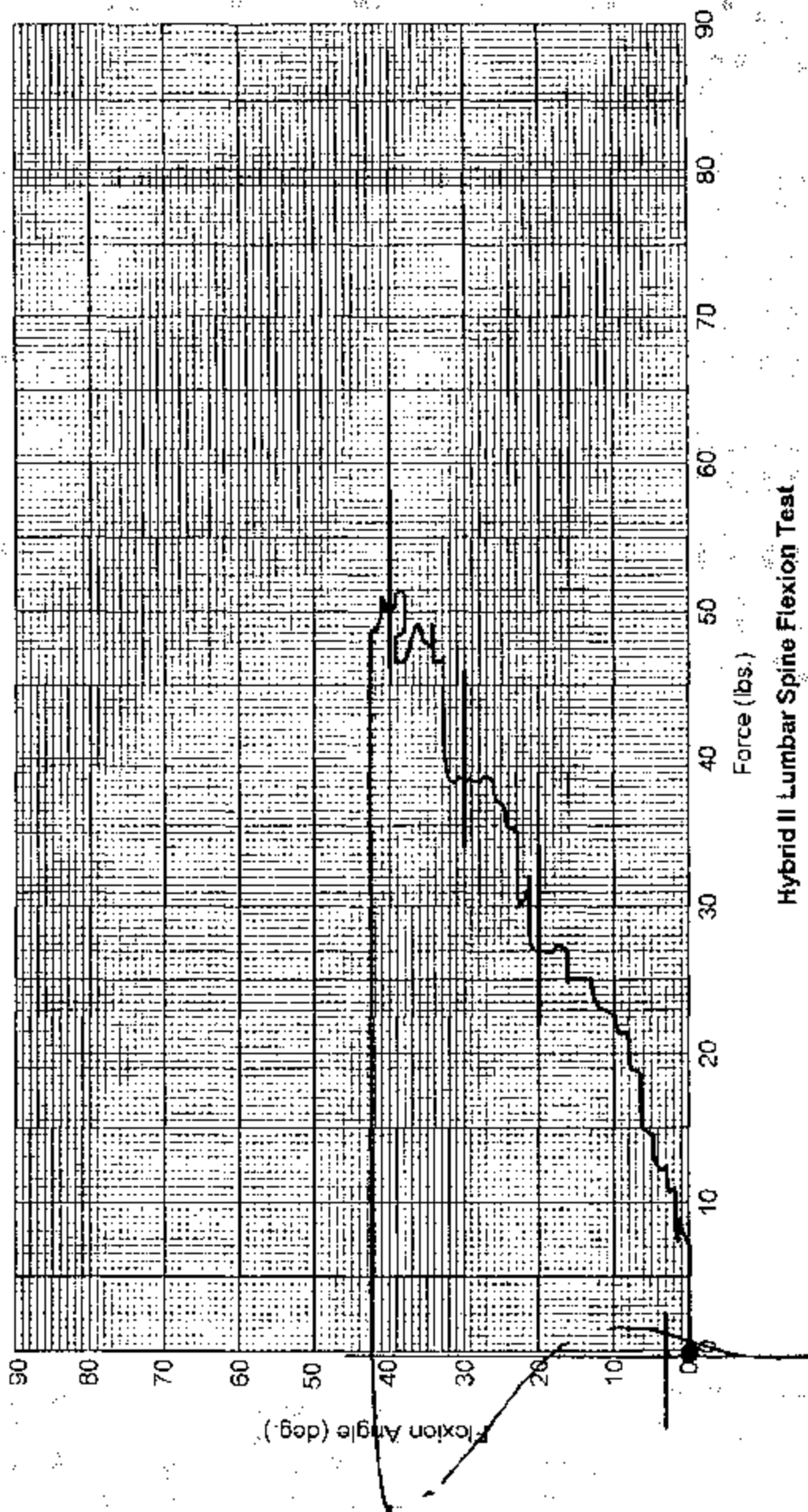
CONFIGURED FOR LEFT SIDE IMPACT

SID 113 Serial No.: 015 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swicicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	120.5
FORCE @ 30° (N)	151.2 - 204.6	171.7
FORCE @ 40° (N)	204.6 - 258	223.3
RETURN ANGLE	12° max.	3°

REMARKS: None

Dummy S/N 015
 WIA _____
 Date 4-17-03
 Performed By [Signature]
 Temp 70°
 Humidity 33%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SJD H3 Serial No.: 015 Sequential Test Number: 5
 Date: April 17, 2003 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FLUT	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	

REMARKS: None

CALIBRATION TEST RESULTS

POST TEST

SID H3 NO.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BEND TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

5

Date: April 17, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	239
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

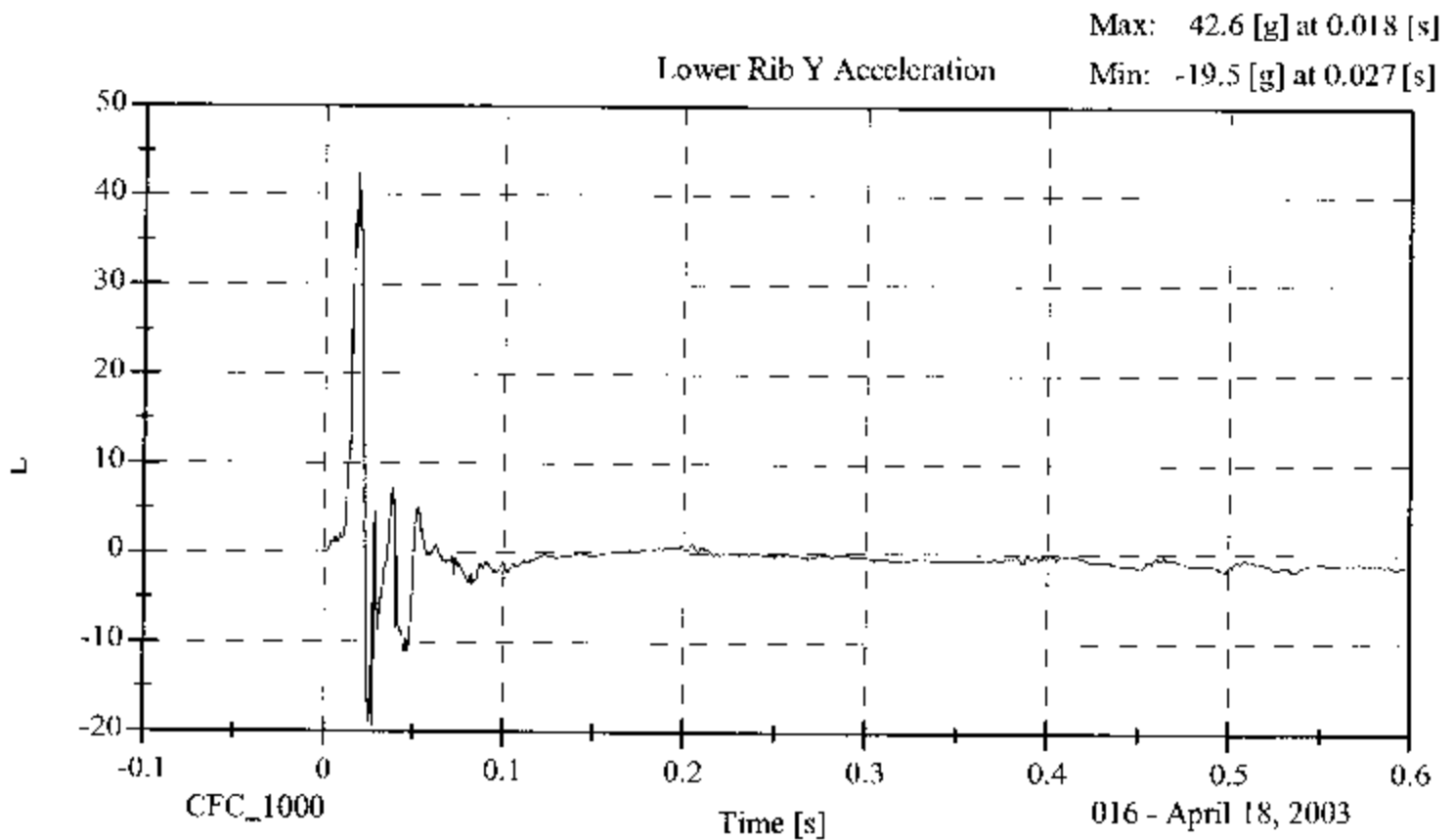
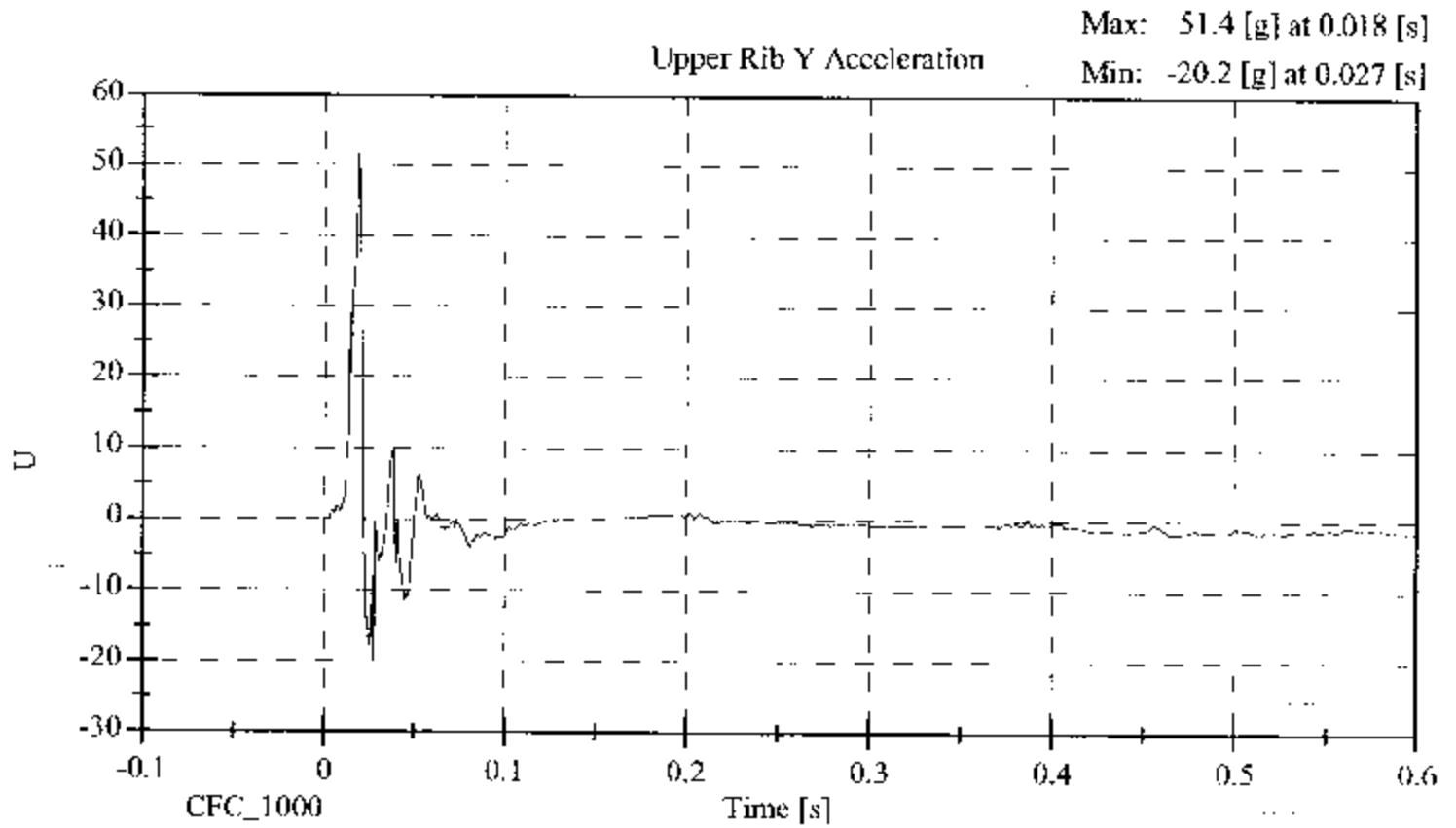
**LATERAL THORAX IMPACT TEST
POST TEST**

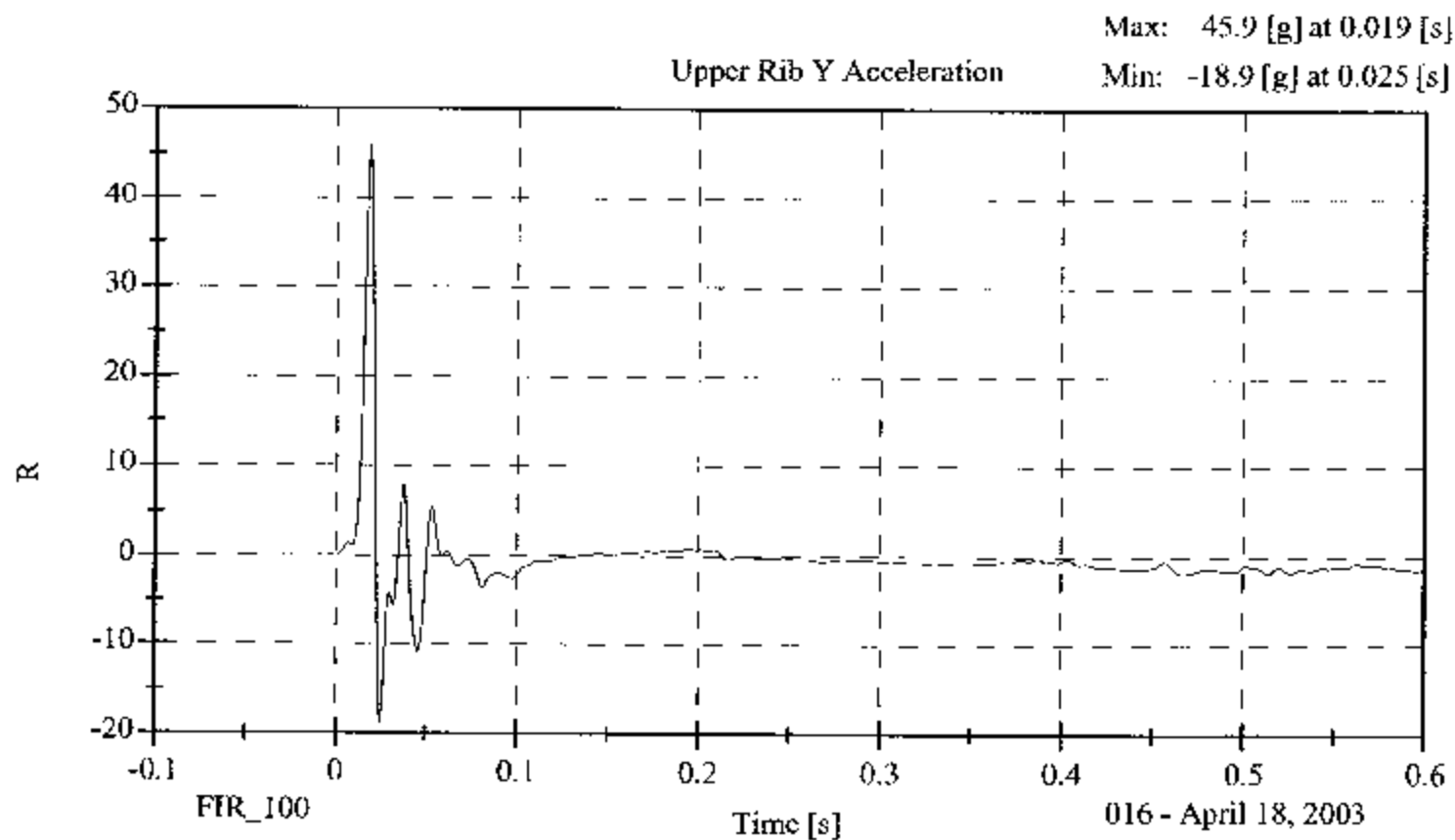
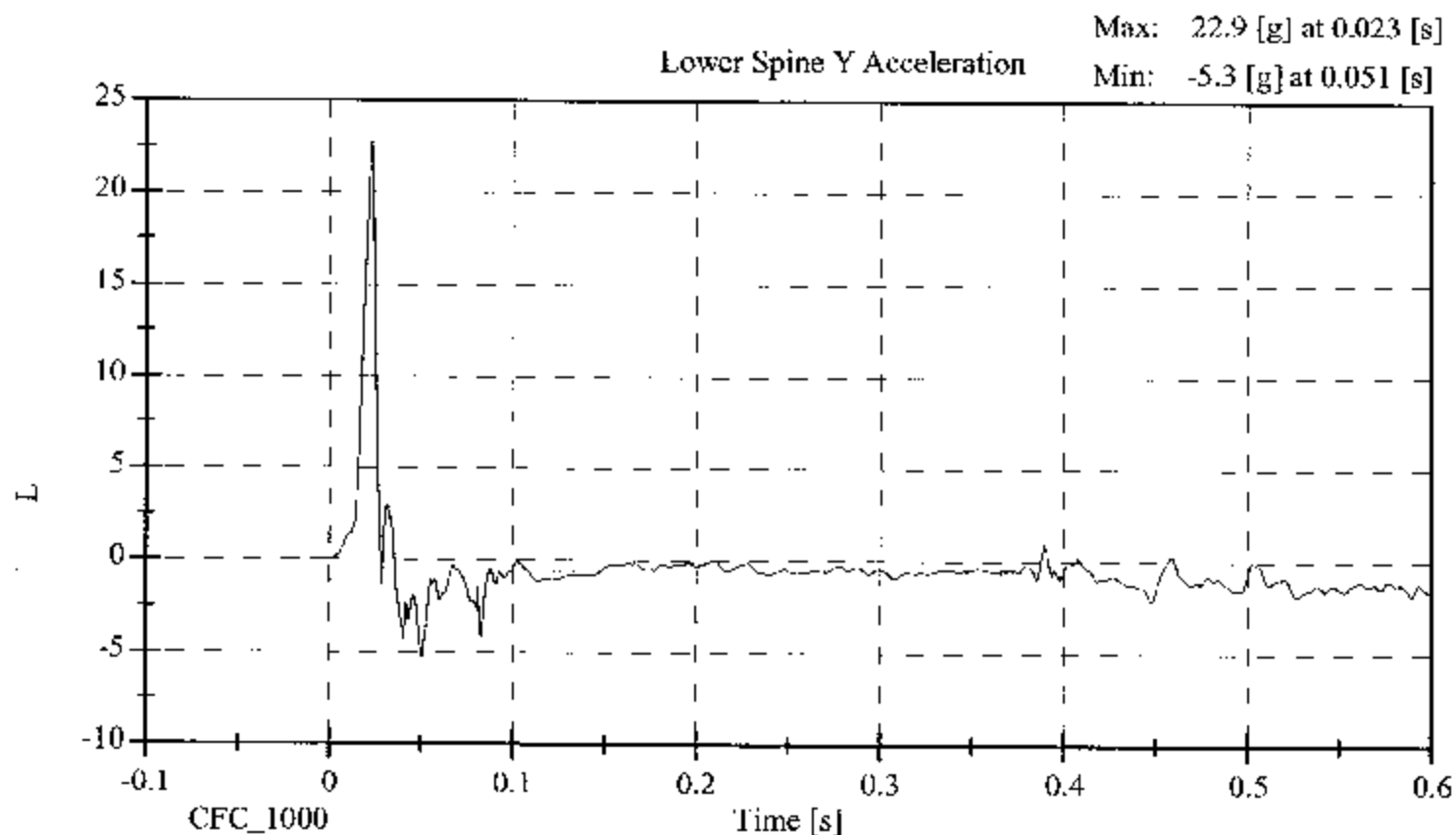
CONFIGURED FOR LEFT SIDE IMPACT

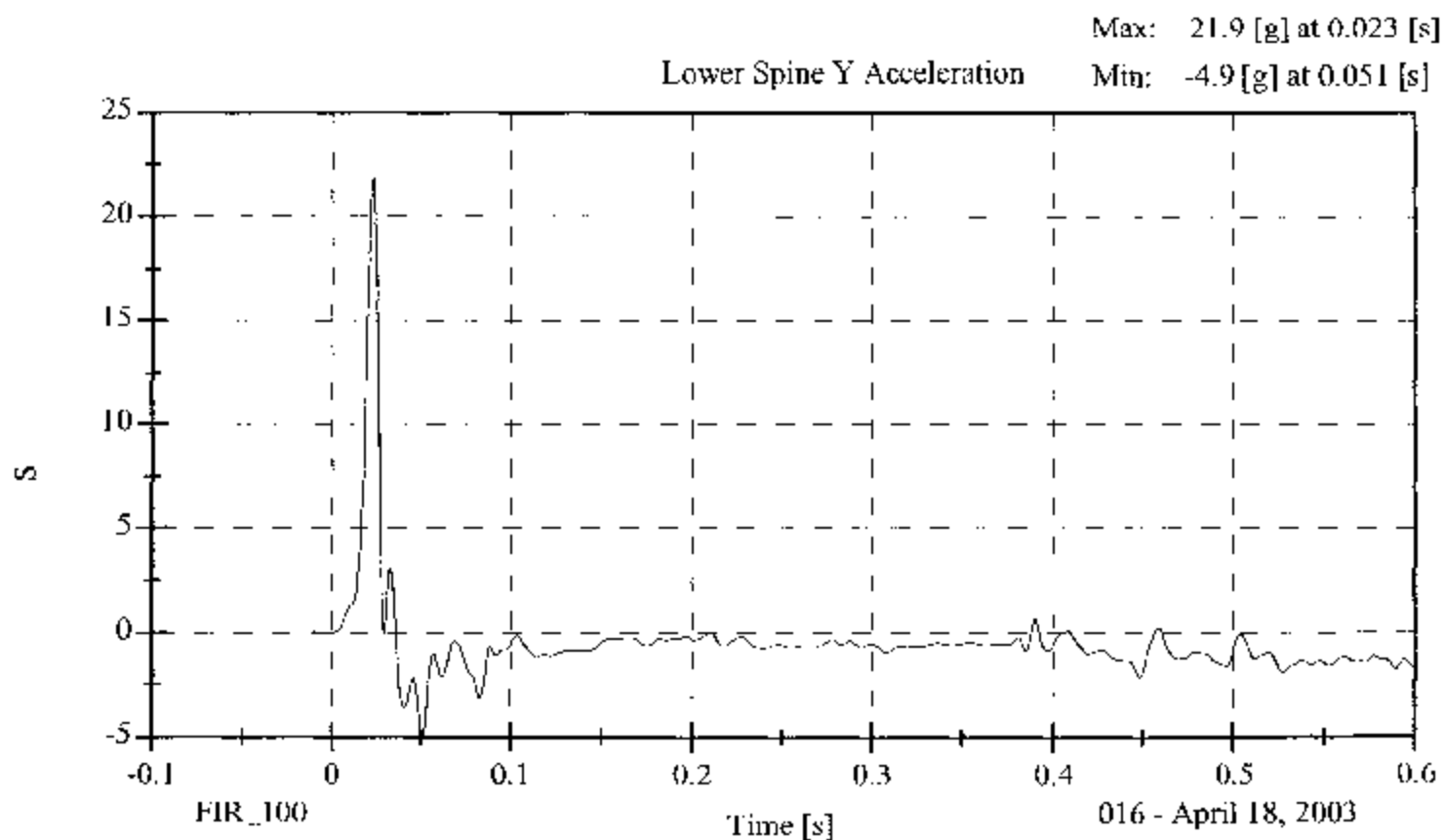
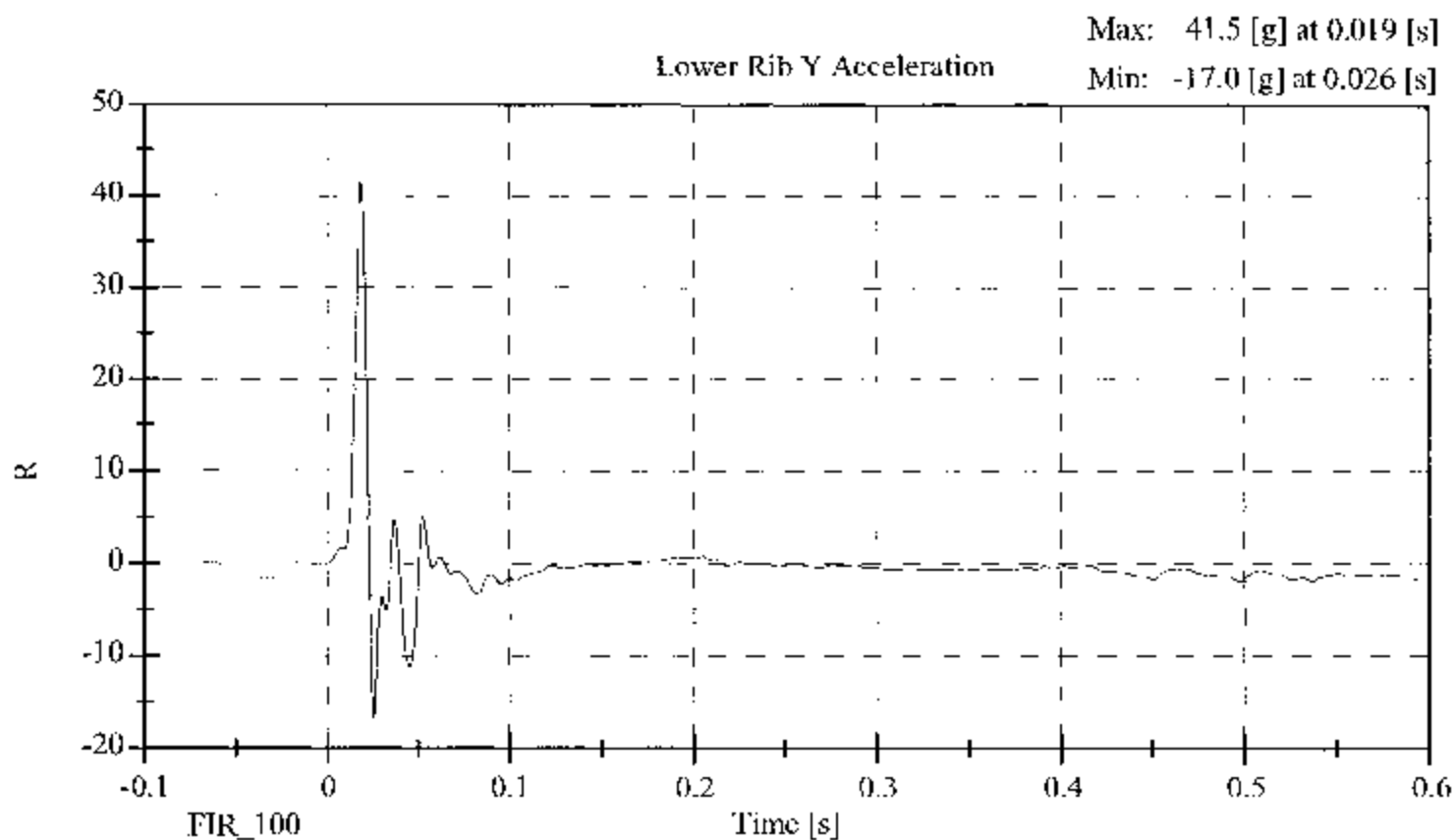
SID H3 Serial No.: 016	Sequential Test Number: 5
Date: April 17, 2003	Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.27
UPPER RIB (g's)	37 - 46	45.95
LOWER RIB (g's)	37 - 46	41.51
LOWER SPINE (g's)	15 - 22	21.93

REMARKS: None







**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number:

5

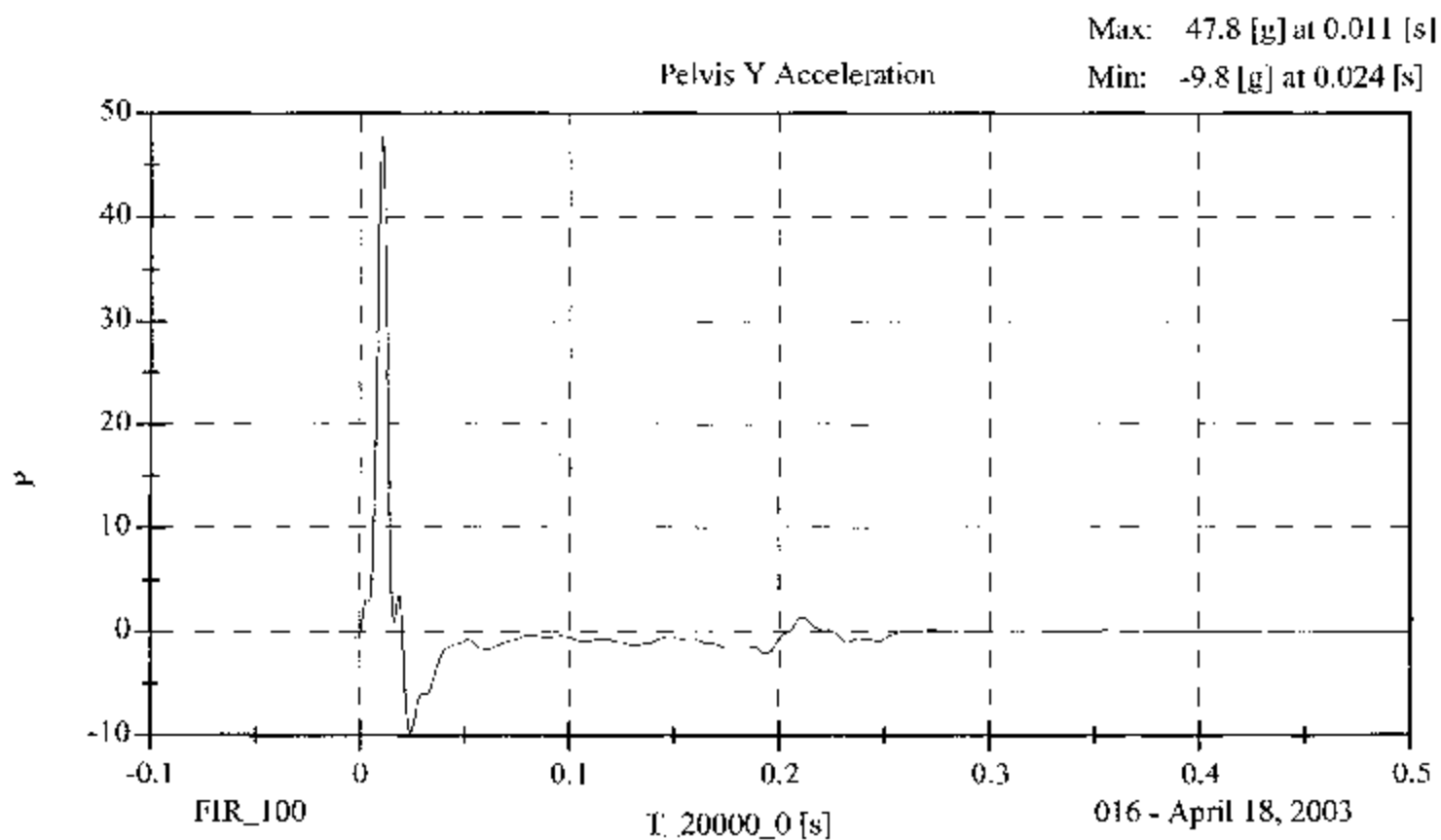
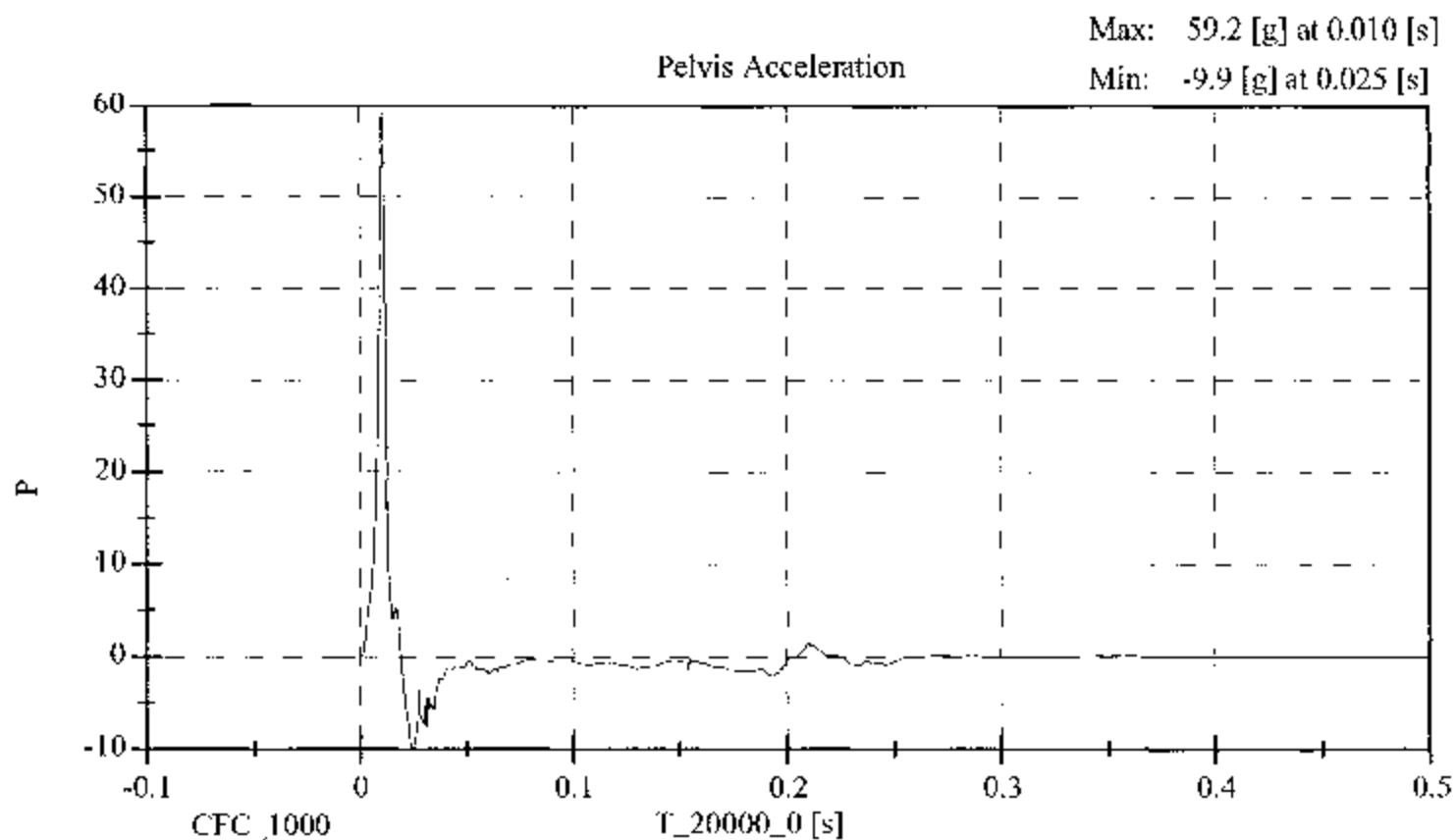
Date: April 17, 2003

Laboratory Technician:

B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	35.0
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	47.79

REMARKS: None



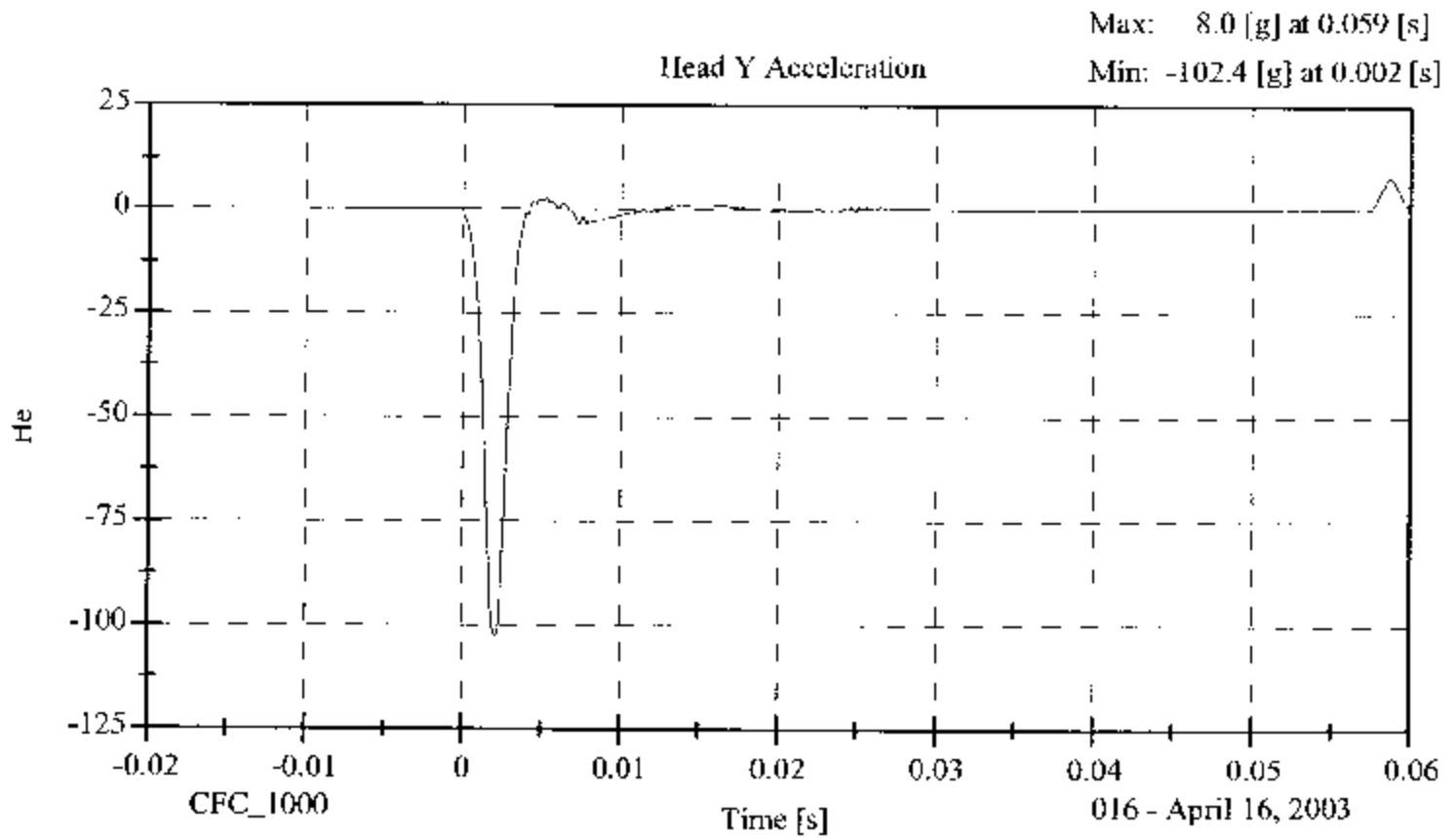
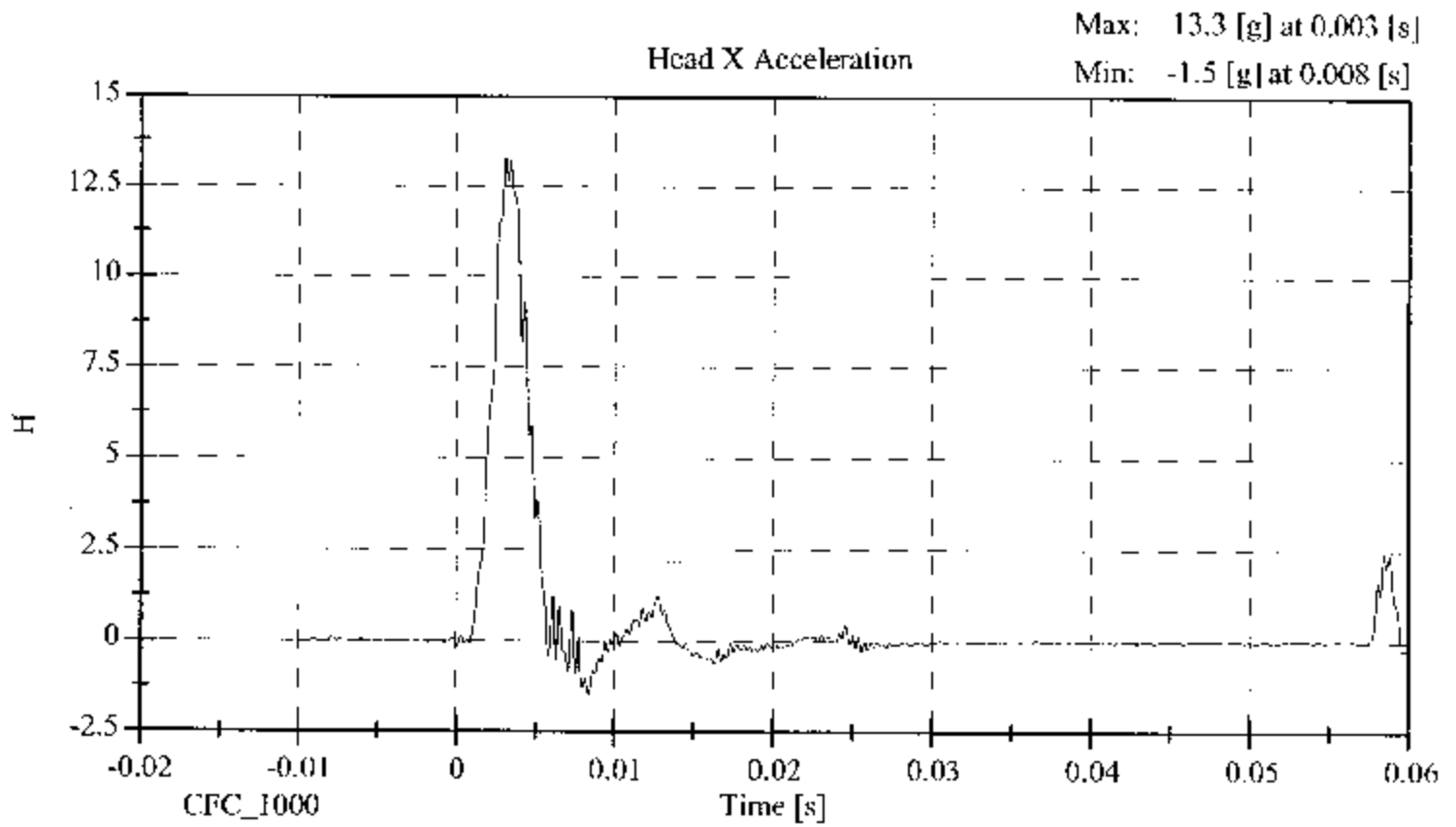
**HEAD DROP TEST
POST-TEST**
(Test not required for SID certification)

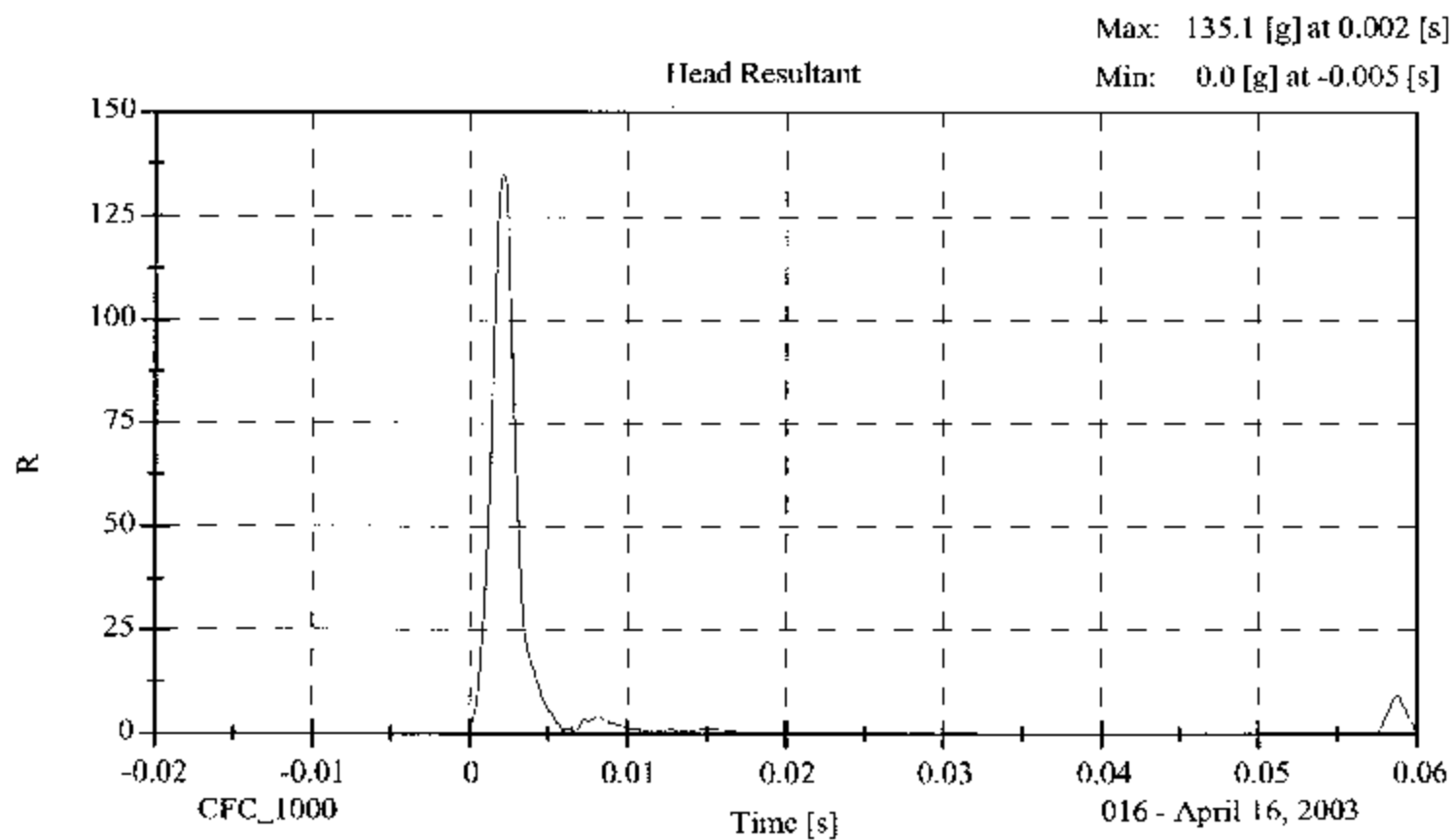
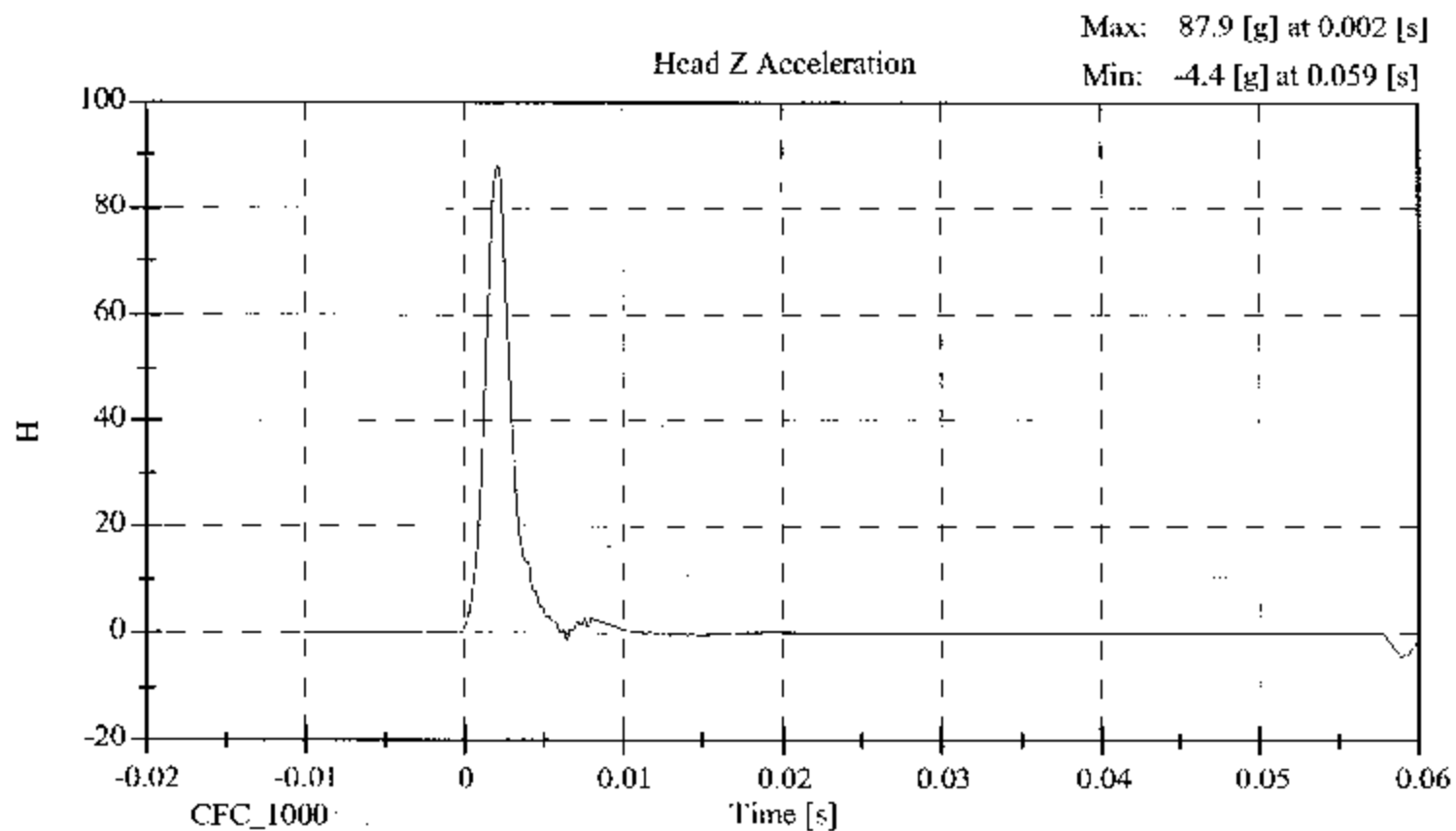
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Sequential Test Number: 5
Date: April 16, 2003 Laboratory Technician: H. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	20.7
RELATIVE HUMIDITY (%)	10 - 70	30.00
PEAK RESULTANT ACCELERATION (Gs)	120 - 150	135.07
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 15	13.29
CURVE PERCENT NONMODAL (%)	< 15	6.83

REMARKS: None





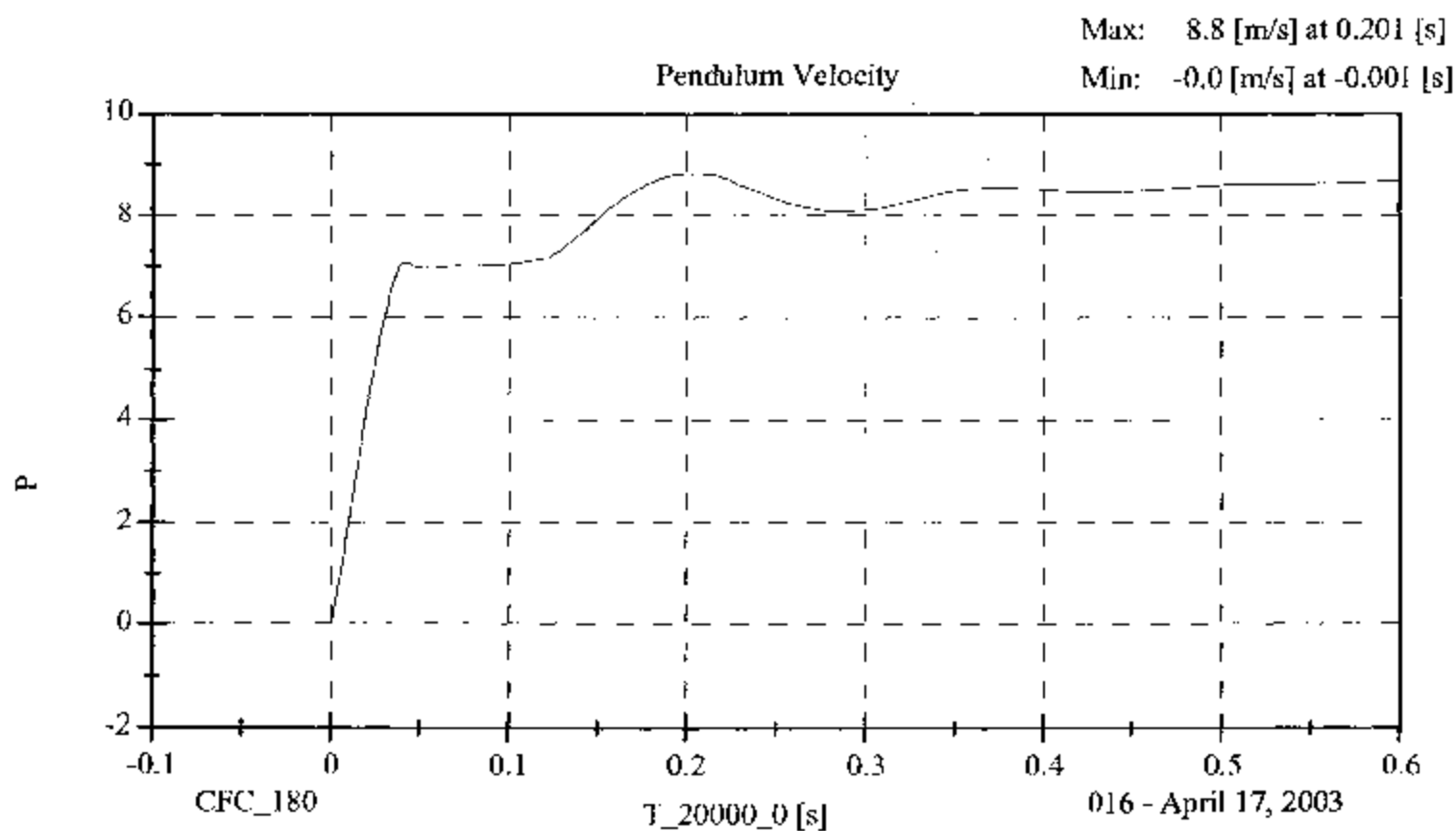
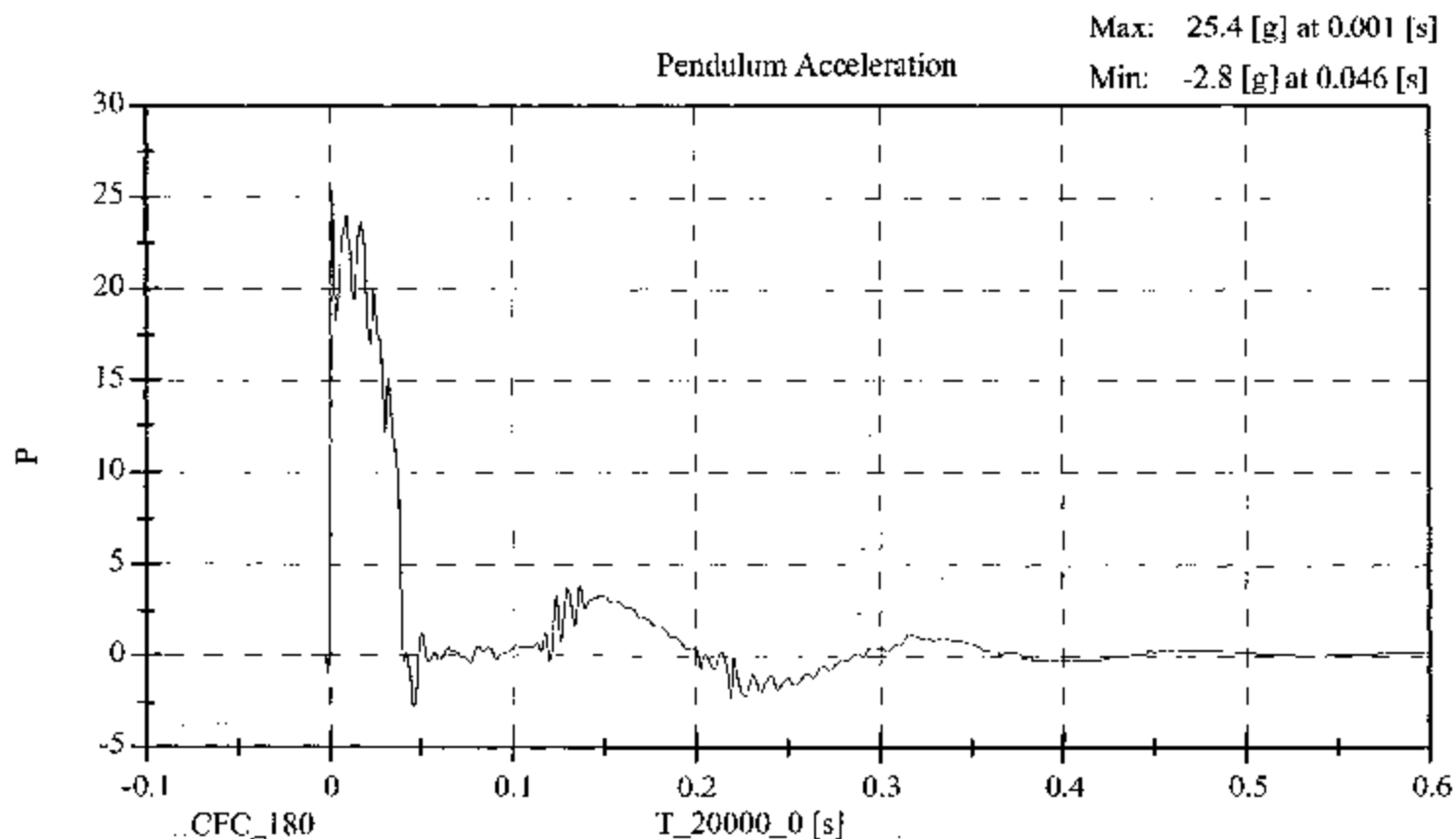
LATERAL NECK BENDING TEST
POST-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

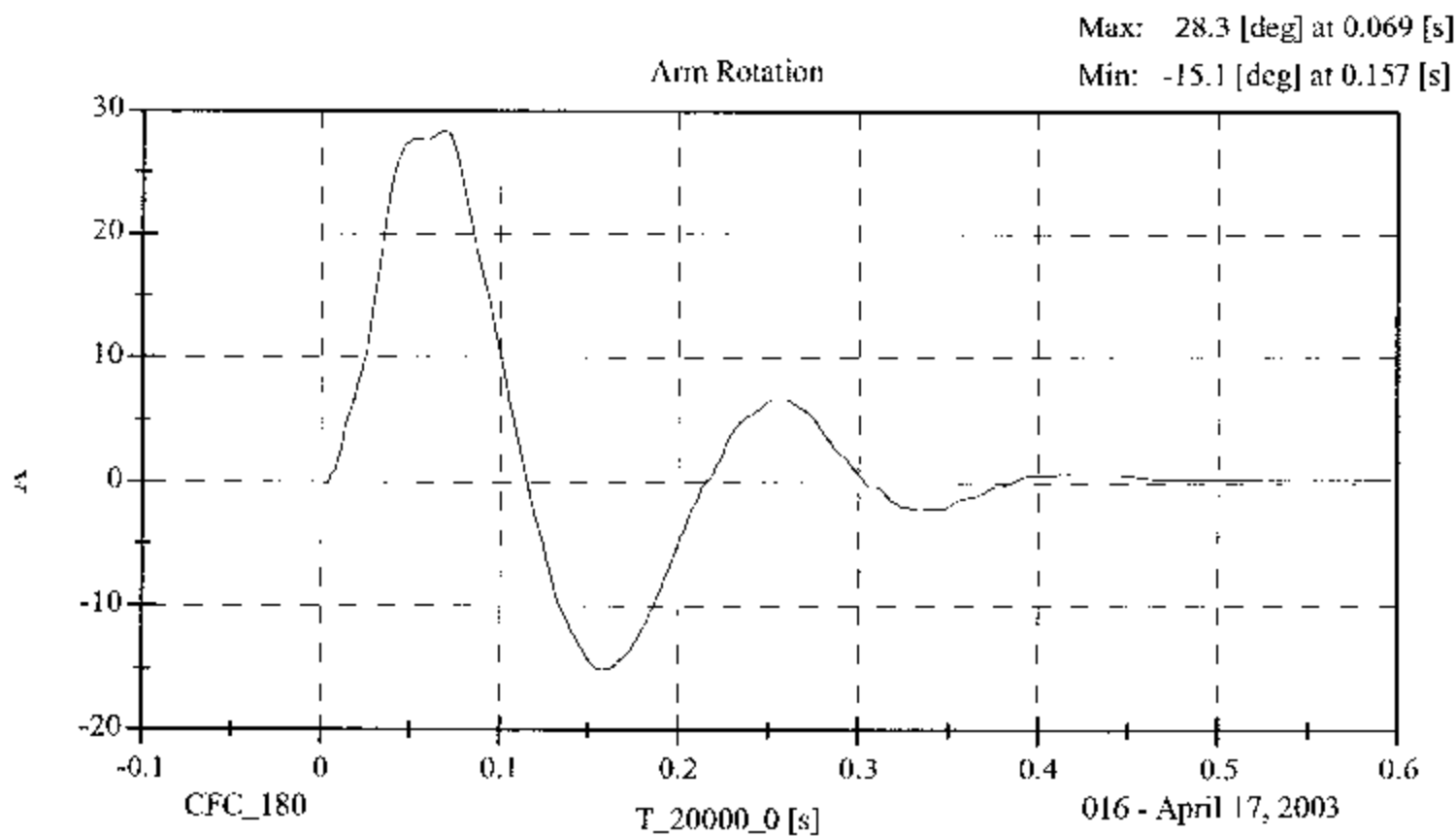
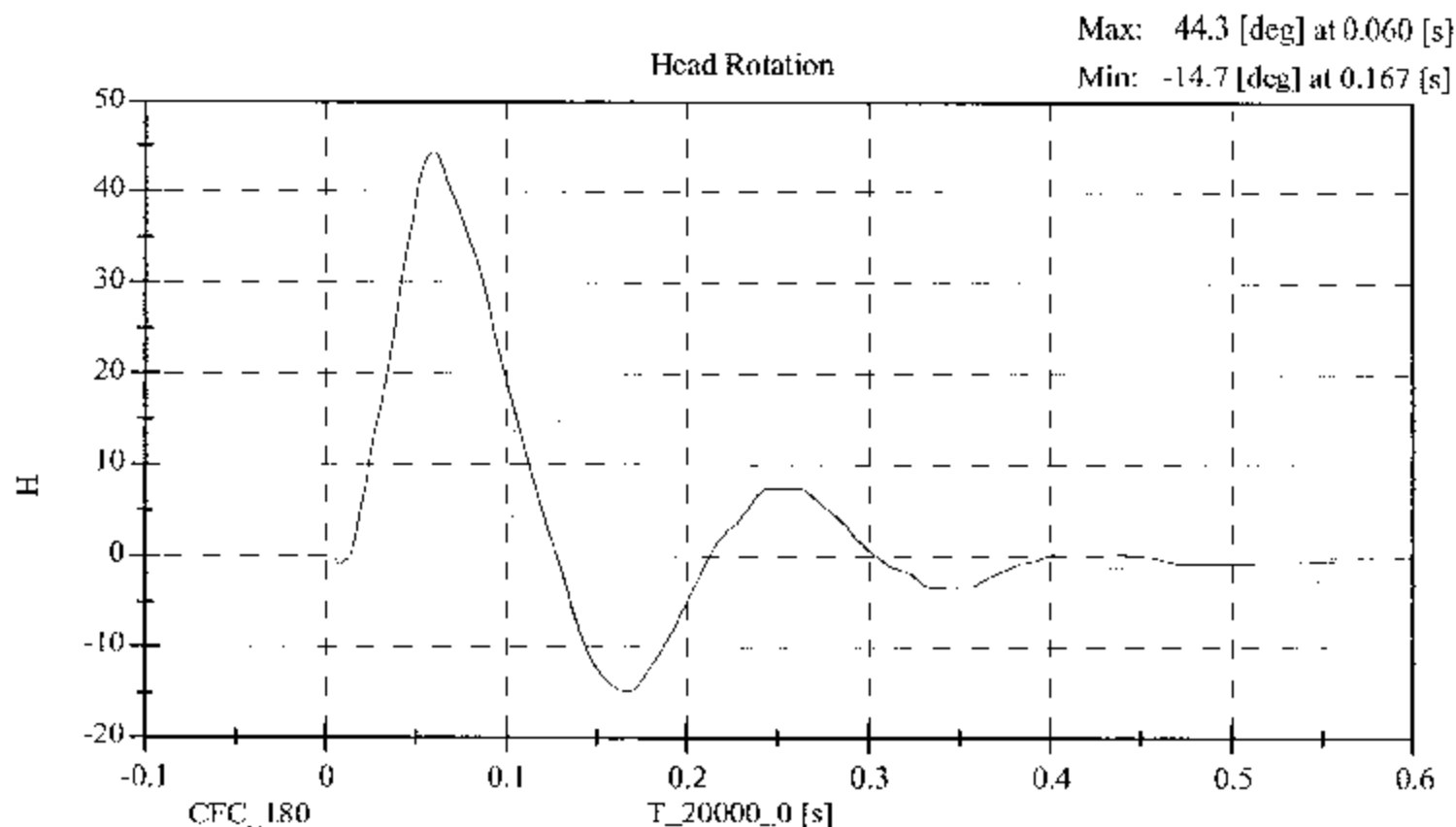
SID Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

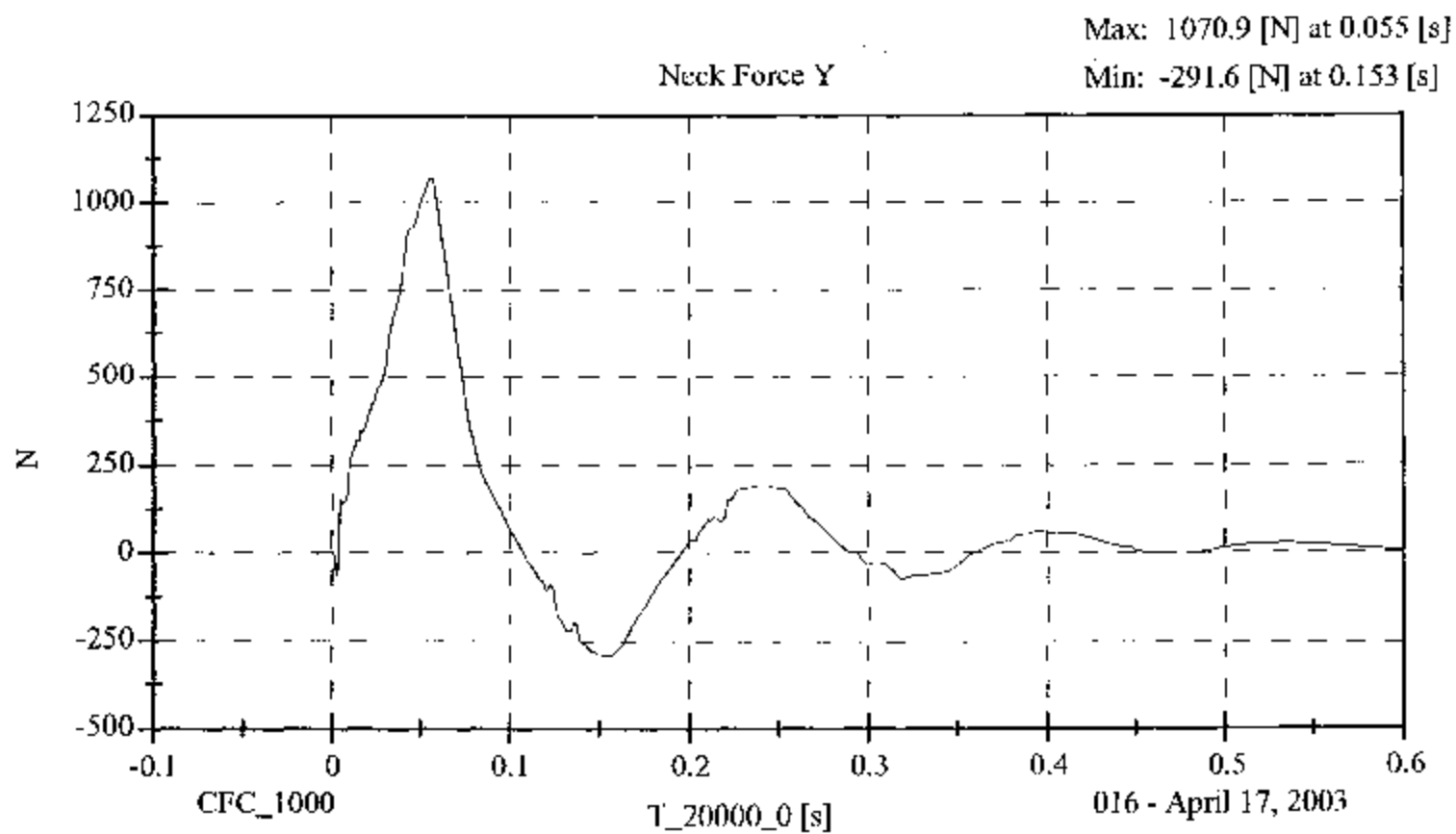
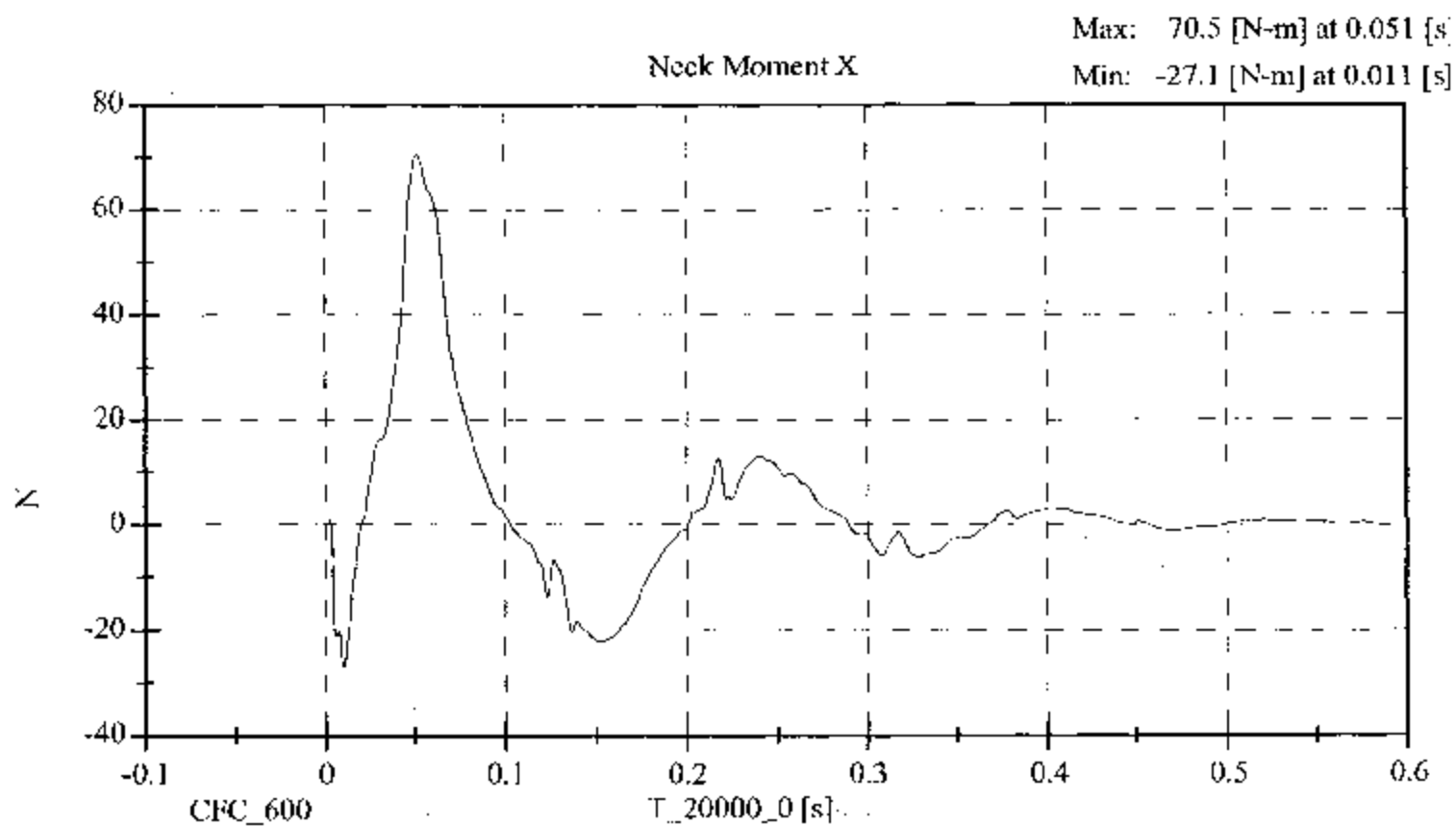
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
IMPACT VELOCITY (m/s)	6.89 - 7.13	6.94
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.12
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.26
DELTA V @ 30 ms (m/s)	5.73 - 7.01	5.99
DELTA V @ 40-70 ms (m/s)	6.27 - 7.64	7.16
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	71.91
ROT. ANGLE TIME to ZERO (ms)	50 - 70	60.95
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	88.76
OCCIPITAL MOMENT DECAY (ms)	40.0 - 60.0	51.85
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	8.70

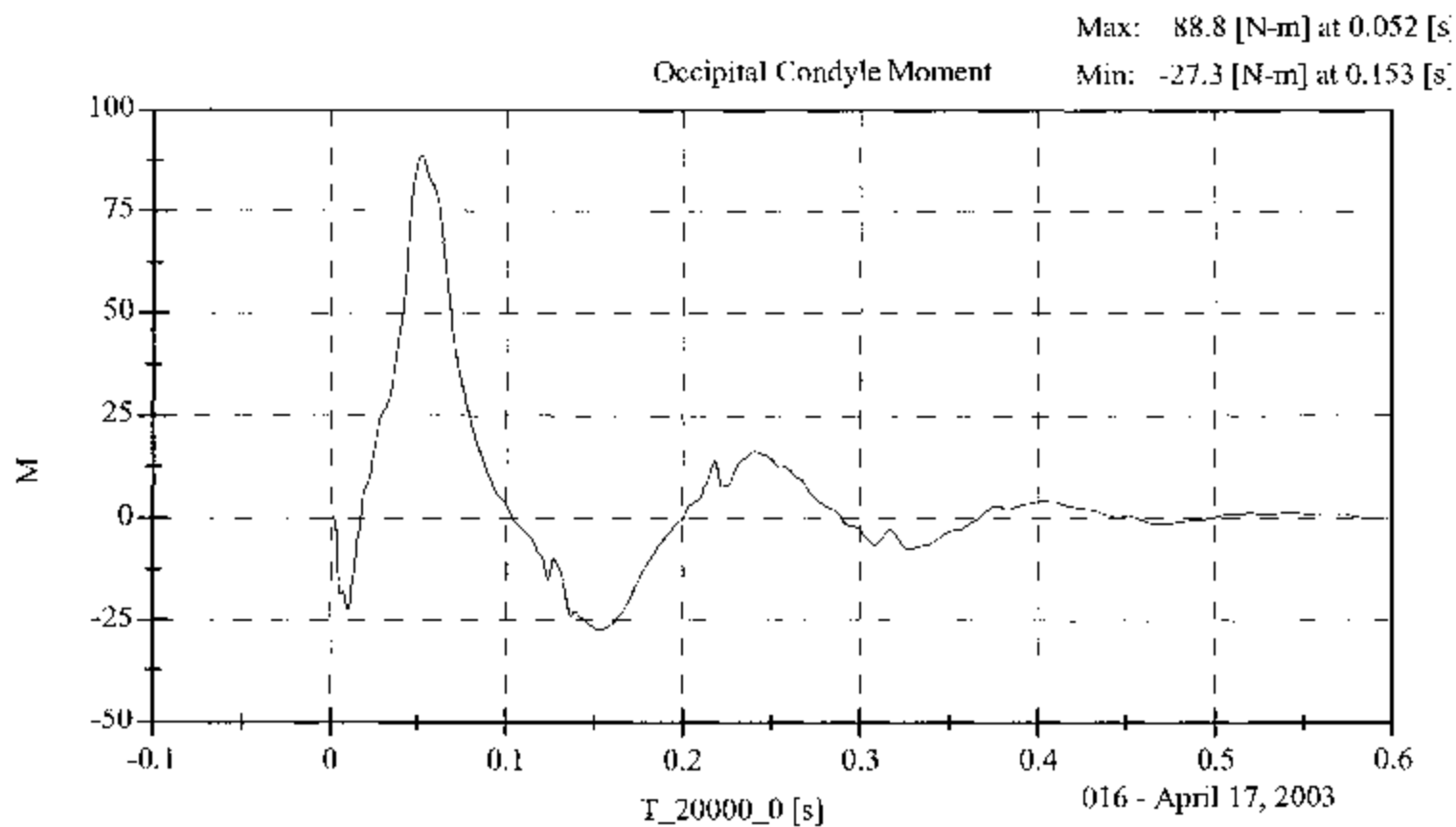
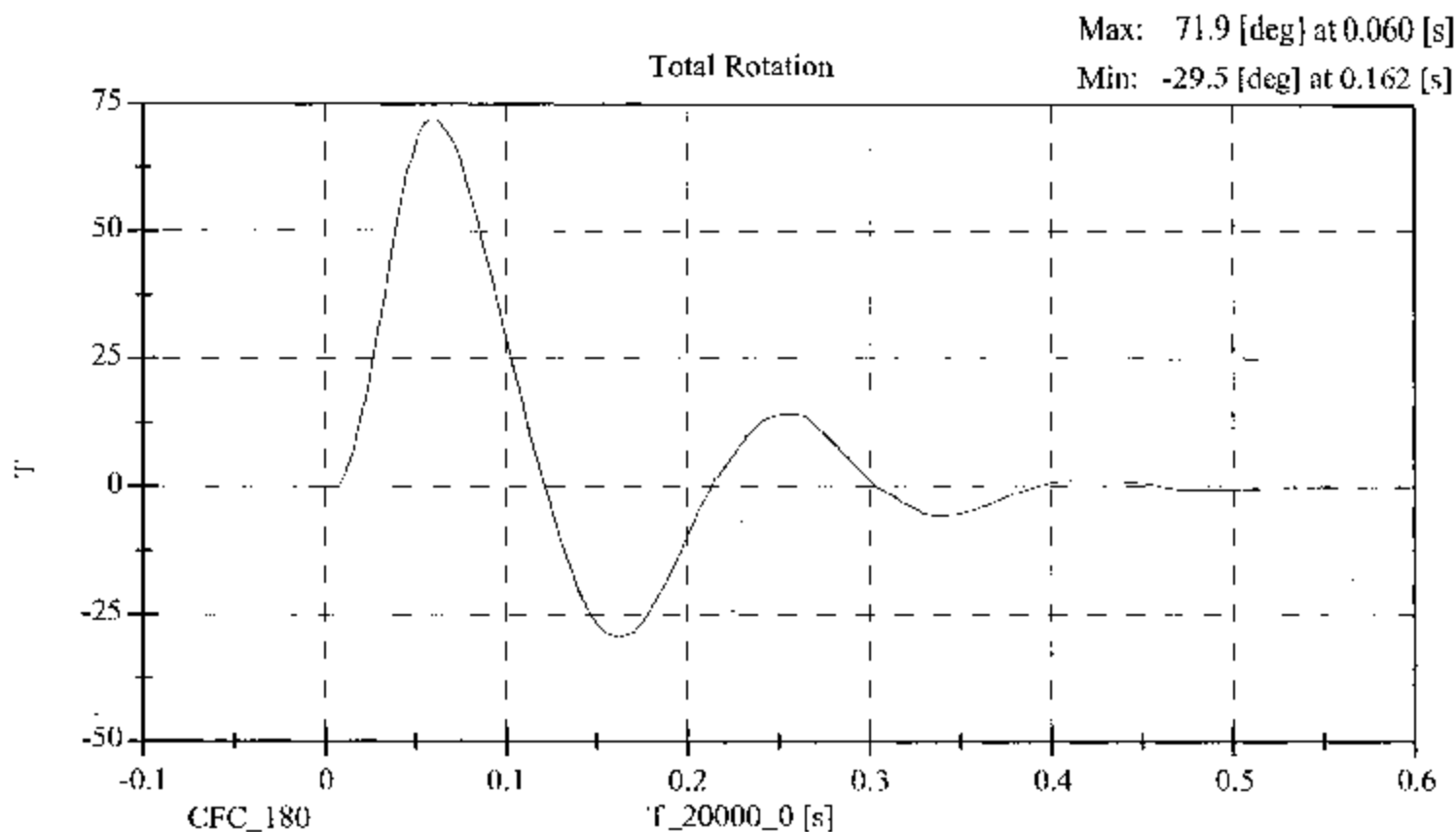
REMARKS: None



016 - April 17, 2003







**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016

Sequential Test Number: 5

Date: April 17, 2003

Laboratory Technician: B. Swiericki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 13 mm (N)	104 - 162	106.3
FORCE @ 19 mm (N)	163 - 221	165.0
FORCE @ 25 mm (N)	222 - 280	235.3
FORCE @ 33 mm (N)	325 - 391	334.1

REMARKS: None

Dummy S/N

016

W/A

Date

4-17-03

Performed By

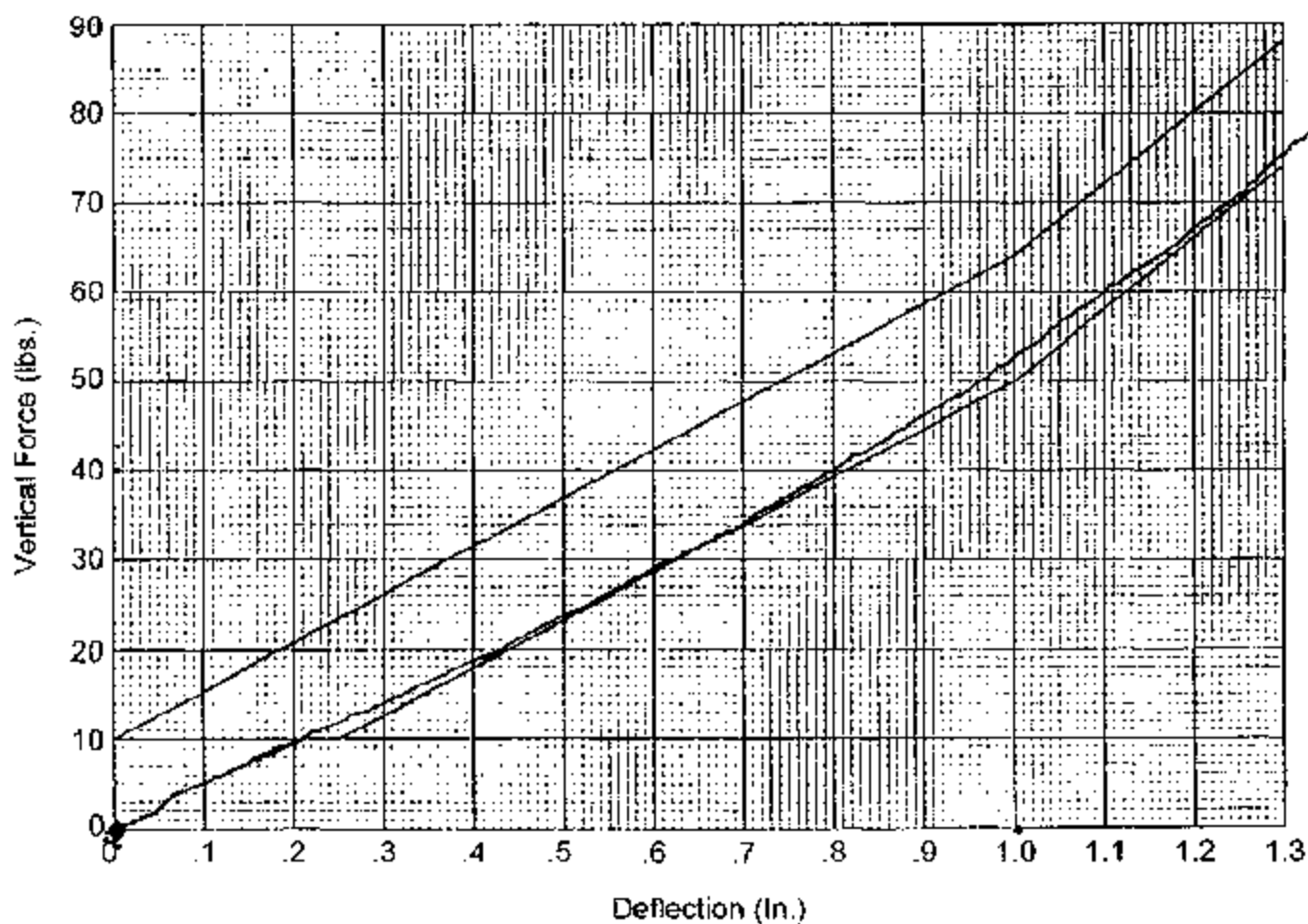
[Signature]

Temp.

-70°

Humidity

33%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

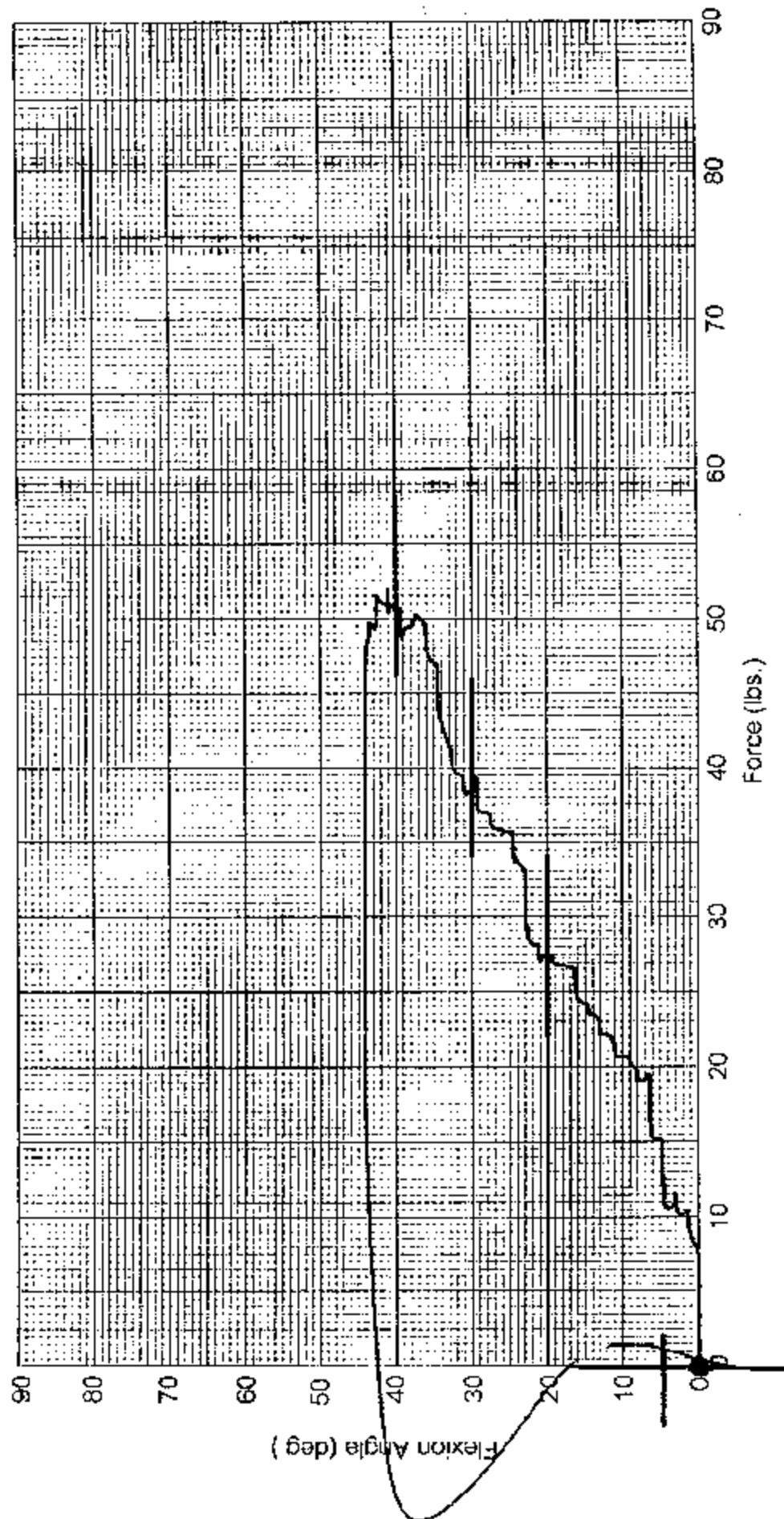
CONFIGURED FOR LEFT SIDE IMPACT

SID H3 Serial No.: 016 Sequential Test Number: 5
Date: April 17, 2003 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	33.0
FORCE @ 0° (N)	0 - 26.7	0.0
FORCE @ 20° (N)	97.8 - 151.2	120.5
FORCE @ 30° (N)	151.2 - 204.6	171.3
FORCE @ 40° (N)	204.6 - 258	223.3
RETURN ANGLE	12° max.	3°

REMARKS: None

Dummy S/N 016
 W/A _____
 Date 4-17-03
 Performed By RR
 Temp. 70°
 Humidity 33%



Hybrid II Lumbar Spine Flexion Test

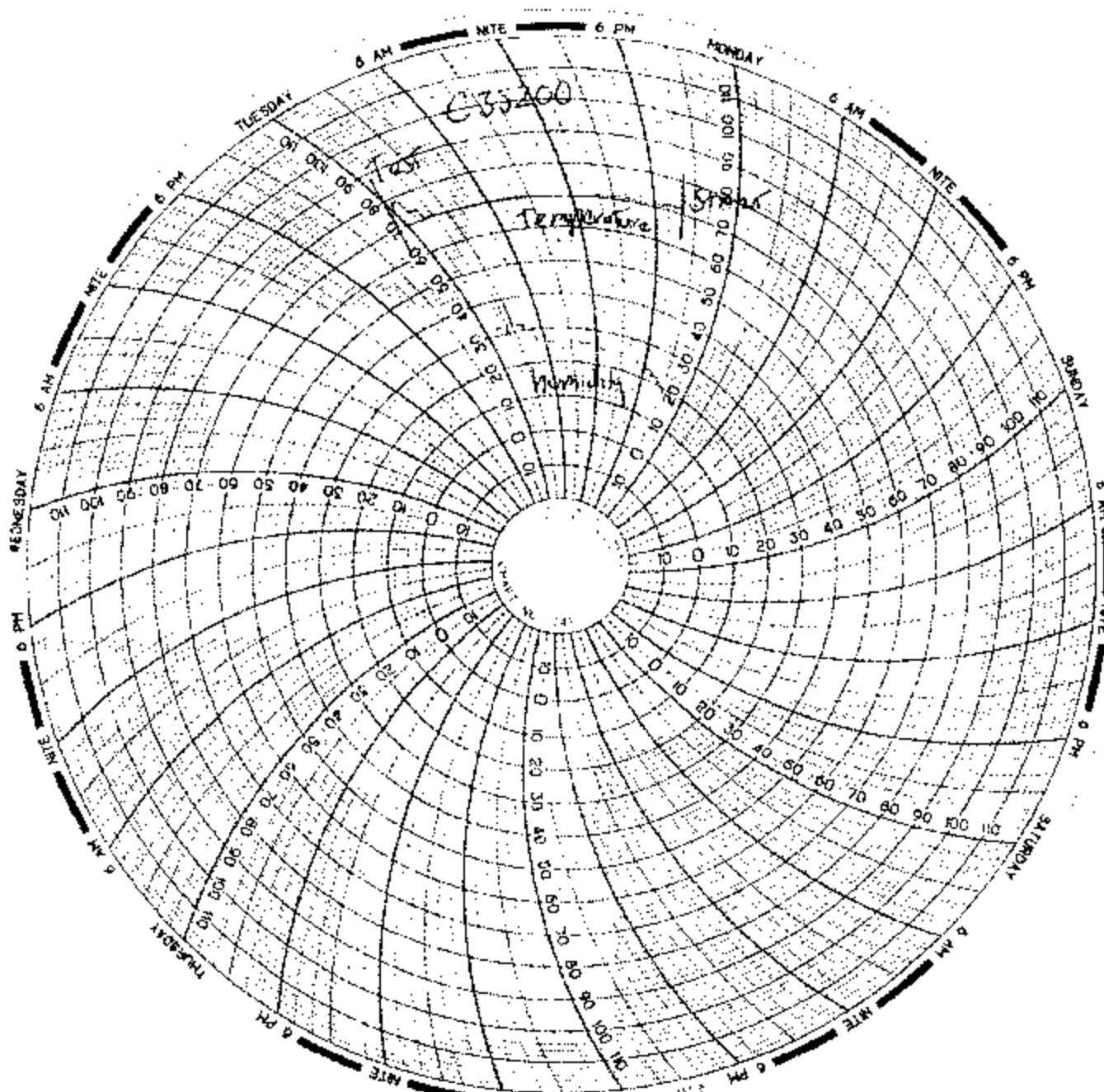
POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID 113 Serial No.: 016 Sequential Test Number: 5
 Date: April 17, 2003 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

TEMPERATURE TRACE



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

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**TEST EQUIPMENT LIST AND CALIBRATION INFORMATION
SID INSTRUMENTATION**

	FRONT SID NO.: 015		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
NAAH HEAD X ARM Y	AC-01G18-F06	ENTRAN	07-Apr-03
NAAH HEAD X ARM Z	AC-01B00113-F39	ENTRAN	07-Apr-03
NAAH HEAD Y ARM X	AC-00L13-F14	ENTRAN	07-Apr-03
NAAH HEAD Y ARM Z	AC-01G18-F16	ENTRAN	07-Apr-03
NAAH HEAD Z ARM X	AC 01B00L13 F72	ENTRAN	07-Apr-03
NAAH HEAD Z ARM Y	AC 01G18 F12	ENTRAN	07-Apr-03
HEAD AX	AC-P23993	ENDEVCO	04-Nov-02
HEAD AY	AC-P23939	ENDEVCO	04-Nov-02
HEAD AZ	AC-P23999	ENDEVCO	04-Nov-02
UPPER NECK FX	LC-2601x	DENTON	12-Nov-02
UPPER NECK FY	LC-2601y	DENTON	12-Nov-02
UPPER NECK FZ	LC-2601z	DENTON	12-Nov-02
UPPER NECK MX	LC-260Mx	DENTON	12-Nov-02
UPPER NECK MY	LC-260My	DENTON	12-Nov-02
UPPER NECK MZ	LC-260Mz	DENTON	12-Nov-02
UPPER RIB	AC-P16862	ENDEVCO	18-Feb-03
LOWER RIB	AC-P16636	ENDEVCO	18-Feb-03
LOWER SPINE	AC-P16866	ENDEVCO	18-Feb-03
PELVIS	AC-P16676	ENDEVCO	18-Feb-03
UPPER RIB REDUNDANT	AC-P23156	ENDEVCO	18-Feb-03
LOWER RIB REDUNDANT	AC-P16645	ENDEVCO	18-Feb-03
LOWER SPINE REDUNDANT	AC-P16823	ENDEVCO	18-Feb-03
PELVIS REDUNDANT	AC-P16843	ENDEVCO	18-Feb-03

	REAR SID NO.: 016		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
NAAH HEAD X ARM Y	AC-01G18-F08	ENTRAN	01-Apr-03
NAAH HEAD X ARM Z	AC-00L20-A13	ENTRAN	01-Apr-03
NAAH HEAD Y ARM X	AC-00L20-A08	ENTRAN	28-Mar-03
NAAH HEAD Y ARM Z	AC-01G18-F13	ENTRAN	28-Mar-03
NAAH HEAD Z ARM X	AC-01J02-F18	ENTRAN	28-Mar-03
NAAH HEAD Z ARM Y	AC-01G25-N11	ENTRAN	28-Mar-03
HEAD AX	AC-P23960	ENDEVCO	10-Nov-02
HEAD AY	AC-P23940	ENDEVCO	09-Nov-02
HEAD AZ	AC-P23899	ENDEVCO	10-Nov-02
UPPER NECK FX	LC-2611x	DENTON	12-Nov-02
UPPER NECK FY	LC-2611y	DENTON	12-Nov-02
UPPER NECK FZ	LC-2611z	DENTON	12-Nov-02
UPPER NECK MX	LC-261Mx	DENTON	12-Nov-02
UPPER NECK MY	LC-261My	DENTON	12-Nov-02
UPPER NECK MZ	LC-261Mz	DENTON	12-Nov-02
UPPER RIB	AC-P18524	ENDEVCO	17-Feb-03
LOWER RIB	AC-P18533	ENDEVCO	17-Feb-03
LOWER SPINE	AC-P18514	ENDEVCO	17-Feb-03
PELVIS	AC-P18519	ENDEVCO	17-Feb-03
UPPER RIB REDUNDANT	AC-P18528	ENDEVCO	17-Feb-03
LOWER RIB REDUNDANT	AC-P18518	ENDEVCO	17-Feb-03
LOWER SPINE REDUNDANT	AC-P18688	ENDEVCO	17-Feb-03
PELVIS REDUNDANT	AC-P18531	ENDEVCO	17-Feb-03

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-B11408	ENDEVCO	10-Feb-03
RIGHT FRONT SILL (Y)	AC-A13513	ENDEVCO	10-Feb-03
RIGHT FRONT SILL (Z)	AC-B10827	ENDEVCO	10-Feb-03
RIGHT REAR SILL (X)	AC-J32383	ENDEVCO	21-Jan-03
RIGHT REAR SILL (Y)	AC-J25745	ENDEVCO	21-Jan-03
RIGHT REAR SILL (Z)	AC-J29805	ENDEVCO	21-Jan-03
REAR FLOORPAN ABOVE AXLE (X)	AC-J32143	ENDEVCO	21-Jan-03
REAR FLOORPAN ABOVE AXLE (Y)	AC-J32838	ENDEVCO	21-Jan-03
REAR FLOORPAN ABOVE AXLE (Z)	AC-J32174	ENDEVCO	21-Jan-03
LEFT REAR SILL (Y)	AC-P24011	ENDEVCO	25-Mar-03
LEFT FRONT SILL (Y)	AC-AN25	ENDEVCO	04-Nov-02
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-8084-014	ICS	20-Nov-02
LOWER LEFT B-PILLAR (Y)	AC-P23884	ENDEVCO	25-Mar-03
MIDDLE LEFT B-PILLAR (Y)	AC-P23804	ENDEVCO	25-Mar-03
LOWER LEFT A-PILLAR (Y)	AC-J31042	ENDEVCO	10-Feb-03
UPPER LEFT A-PILLAR (Y)	AC-J32787	ENDEVCO	21-Jan-03
FRONT SEAT TRACK (Y)	AC-P23976	ENDEVCO	04-Nov-02
REAR SEAT TRACK (Y)	AC-P18682	ENDEVCO	25-Mar-03
VEHICLE CG (X)	AC-P17255	ENDEVCO	11-Feb-03
VEHICLE CG (Y)	AC-P16813	ENDEVCO	11-Feb-03
VEHICLE CG (Z)	AC-P17145	ENDEVCO	11-Feb-03
MDB CG (X)	AC-C16682	ENDEVCO	18-Mar-03
MDB CG (Y)	AC-CJ54	ENDEVCO	18-Mar-03
MDB CG (Z)	AC-GK12	ENDEVCO	18-Mar-03
MDB REAR FRAME MEMBER (X)	AC-CX05	ENDEVCO	18-Mar-03
MDB REAR FRAME MEMBER (Y)	AC-C16685	ENDEVCO	18-Mar-03

REMARKS: None